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THE DISTRIBUTION OF IMPORTANT FOREST TREES OF THE UNITED STATES

BY

E. N. MUNNS
Chief, Division of Forest Influences
Forest Service

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THE DISTRIBUTION OF IMPORTANT FOREST TREES OF THE UNITED STATES

By E. N. Munns, *Chief, Division of Forest Influences,*[1] *Forest Service*

INTRODUCTION

Information on the range and distribution of forest trees has far-reaching practical usefulness in addition to its value to botanists, naturalists, teachers, and others whose work or interests are with trees. It is a valuable tool for the forester, the lumberman, and the manufacturer in search of raw materials. It is an essential element in erosion and flood control operations, and in land-use planning. Indeed, present trends toward better planning and integration of land use are directing increased attention to forest cover, the species represented in it, and the possibilities of enlarging the contribution of forest land to community welfare. In some cases the occurrence of certain species in a region may assume major importance in such planning. It is the purpose of this publication to make readily accessible the information available in the Forest Service on the distribution of important forest trees.

The Forest Service, for over 30 years, has been actively gathering data on the species of trees present in the United States and the extent of their occurrence. More than 20 years ago distribution maps were published for American pines, and as a result much new information on these and other forest-tree species has been obtained. Much of this information has been presented in condensed form in United States Department of Agriculture Miscellaneous Circular 92, Check List of the Forest Trees of the United States, Their Names and Ranges. There has been a strong demand, however, to have this material available on maps because of the greater accuracy, simplicity, and detail possible in this form of presentation. Even the most detailed published descriptions of species distribution are found to be too broadly generalized when an attempt is made to plot the ranges on maps. A mere listing of known points of occurrence would be even less satisfactory.

The maps do not, however, carry any implication as to the density, continuity of occurrence, or commercial quality and quantity of the various species. Lumbering, fire, and agricultural development in many parts of the United States have markedly affected the original forest. Although in some instances they may have caused an extension of the range of some species, their influence is usually in the opposite direction, and in extreme cases, such as in portions of the Lake States and the South, they have eliminated formerly abundant species from fairly large areas. It is, however, impractical to show such locally depleted areas on maps of the scale used.

No attempt has been made to show the commercial range of important timber tree species, since changing demands, practices, and standards in utilization would make such information out of date in a comparatively short time.

So many sources of information, published and unpublished, have been drawn upon in the preparation of the maps that individual reference and acknowledgment is not feasible. The sources include taxonomic and botanical handbooks, ecological papers, and occurrence notes by botanists, foresters, biologists, and other workers. However, since not all of the unpublished notes have been supported by authenticated herbarium specimens, an effort has been made to include only reports of qualified observers.

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[1] The maps here presented have been based very largely upon data collected by the late George B. Sudworth, dendrologist of the Forest Service until his death in 1927. Since his death this work has been carried on as an activity of the Division of Silvics. Many of the more recent data have been compiled by William W. Mitchell, junior forester.

Nomenclature of the species, both scientific and common names, and the order of arrangement, follow the Check List. Since the issuance of that publication in 1927, certain minor revisions in the standard nomenclature have been adopted by the Forest Service. These have been incorporated in the present publication along with other minor corrections listed below.

CHECK LIST	CORRECTION
Pinus monticola D. Don.	*Pinus monticola* Douglas.
Pinus balfouriana Murray.	*Pinus balfouriana* A. Murray.
Pinus resinosa Solander.	*Pinus resinosa* Aiton.
Pinus ponderosa Lawson.	*Pinus ponderosa* Douglas.
Pinus jeffreyi "Oreg. Com."	*Pinus jeffreyi* Greville and Balfour.
Pinus contorta Loudon.	*Pinus contorta* Douglas.
Picea engelmannii Engelmann.	*Picea engelmanni* (Parry) Engelmann.
Pseudotsuga taxifolia (La Marck) Britton.	*Pseudotsuga taxifolia* (Lambert) Britton.
Abies concolor Lindley and Gordon.	*Abies concolor* Lindley.
Abies amabilis (Loudon) Forbes.	*Abies amabilis* (Douglas) Forbes.
Chamaecyparis nootkatensis (Lambert) Sudworth.	*Chamaecyparis nootkatensis* (Lambert) Spach.
Populus trichocarpa Hooker.	*Populus trichocarpa* Torrey and Gray.
Ostrya virginiana (Miller) Koch.	*Ostrya virginiana* (Miller) K. Koch.
Betula lutea Michaux.	*Betula lutea* Michaux filius.
Betula populifolia Marsh.	*Betula populifolia* Marshall.
Gymnocladus dioicus (Linnaeus) Koch.	*Gymnocladus dioicus* (Linnaeus) K. Koch.
Acer nigrum F. A. Michaux.	*Acer nigrum* Michaux filius.

Although collection of data has continued for many years, the records are still incomplete. One of the objectives of the present publication, therefore, is to stimulate interest in the accumulation of more accurate information on the distribution of our North American trees. The Forest Service will welcome data indicating the need for changes on the present maps. Location data should be as specific as possible to facilitate plotting, and occurrence should be substantiated by herbarium specimens when their collection is practicable.

TREE DISTRIBUTION MAPS

Map no.
Pinus strobus Linnaeus, northern white pine 1
Pinus monticola Douglas, western white pine 2
Pinus lambertiana Douglas, sugar pine 3
Pinus flexilis James, limber pine 4
Pinus albicaulis Engelmann, whitebark pine 5
Pinus strobiformis Engelmann, Mexican white pine 6
Pinus cembroides Zuccarini, Mexican piñon 7
Pinus edulis Engelmann, piñon 8
Pinus monophylla Torrey and Fremont, singleleaf piñon 9
Pinus balfouriana A. Murray, foxtail pine 10
Pinus aristata Engelmann, bristlecone pine 11
Pinus resinosa Aiton, red pine 12
Pinus ponderosa Douglas, ponderosa pine 13
Pinus jeffreyi Greville and Balfour, Jeffrey pine 14
Pinus contorta Douglas, lodgepole pine 15
Pinus sabiniana Douglas, digger pine 16
Pinus coulteri D. Don, Coulter pine 17
Pinus taeda Linnaeus, loblolly pine 18
Pinus rigida Miller, pitch pine 19
Pinus rigida serotina (Michaux) Loudon, pond pine 20
Pinus virginiana Miller, Virginia pine 21
Pinus echinata Miller, shortleaf pine 22
Pinus glabra Walter, spruce pine 23
Pinus banksiana Lambert, jack pine 24
Pinus palustris Miller, longleaf pine 25
Pinus caribaea Morelet, slash pine 26
Larix laricina (DuRoi) K. Koch, tamarack 27
Larix occidentalis Nuttall, western larch 28
Picea mariana (Miller) Britton, Sterns, and Poggenberg, black spruce 29
Picea rubra Link,[2] red spruce 30
Picea glauca (Moench) Voss, white spruce 31
Picea engelmanni (Parry) Engelmann, Engelmann spruce 32
Picea pungens Engelmann, blue spruce 33
Picea sitchensis (Bongard) Carrière, Sitka spruce 34
Tsuga canadensis (Linnaeus) Carrière, eastern hemlock 35
Tsuga heterophylla (Rafinesque) Sargent, western hemlock 36
Tsuga mertensiana (Bongard) Sargent, mountain hemlock 37
Pseudotsuga taxifolia (Lambert) Britton,[3] Douglas fir 38
Pseudotsuga macrocarpa (Torrey) Mayr, bigcone-spruce 39
Abies balsamea (Linnaeus) Miller, balsam fir 40
Abies lasiocarpa (Hooker) Nuttall, alpine fir 41
Abies arizonica Merriam, corkbark fir 42
Abies grandis Lindley, lowland white fir 43
Abies concolor Lindley, white fir 44
Abies amabilis (Douglas) Forbes, silver fir 45
Abies nobilis Lindley, noble fir 46
Abies magnifica A. Murray, California red fir 47
Abies magnifica shastensis Lemmon, Shasta red fir 48
Sequoia washingtoniana (Winslow) Sudworth, bigtree 49
Sequoia sempervirens (Lambert) Endlicher, redwood 50
Taxodium distichum (Linnaeus) Richard, southern cypress 51
Libocedrus decurrens Torrey, incense cedar 52
Thuja occidentalis Linnaeus, northern white cedar 53
Thuja plicata D. Don, western red cedar 54

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[2] Although this name has been adopted in the Check List many well-qualified taxonomists prefer *Picea rubens* Sargent.

[3] Although this name has been adopted in the Check List many well-qualified taxonomists prefer *Pseudotsuga mucronata* (Rafinesque) Sudworth.

Map no.
Chamaecyparis thyoides (Linnaeus) Britton, Sterns, and Poggenberg, southern white cedar 55
Chamaecyparis nootkatensis (Lambert) Spach, Alaska cedar 56
Chamaecyparis lawsoniana (A. Murray) Parlatore, Port Orford cedar 57
Juniperus occidentalis Hooker, western juniper 58
Juniperus virginiana Linnaeus, eastern red cedar 59
Taxus brevifolia Nuttall, Pacific yew 60
Juglans cinerea Linnaeus, butternut 61
× *Juglans quadrangulata* Rehder
Juglans nigra Linnaeus, black walnut 62
Hicoria pecan (Marshall) Britton, pecan 63
Hicoria cordiformis (Wangenheim) Britton, bitternut hickory 64
Hicoria ovata (Miller) Britton, shagbark hickory 65
Hicoria laciniosa (Michaux filius) Sargent, bigleaf shagbark hickory 66
Hicoria alba (Linnaeus) Britton, mockernut hickory 67
Hicoria glabra (Miller) Sweet, pignut hickory 68
Populus tremuloides Michaux, aspen 69
Populus grandidentata Michaux, largetooth aspen 70
Populus heterophylla Linnaeus, swamp cottonwood 71
Populus balsamifera Linnaeus, balsam poplar 72
Populus trichocarpa Torrey and Gray, black cottonwood 73
Populus deltoides Marshall, eastern cottonwood 74
Populus deltoides virginiana (Castiglioni) Sudworth, southern cottonwood 75
Salix nigra Marshall, black willow 76
Salix amygdaloides Andersson, peachleaf willow 77
Carpinus caroliniana Walter, blue beech 78
Ostrya virginiana (Miller) K. Koch, hophornbeam 79
Betula lenta Linnaeus, sweet birch 80
Betula lutea Michaux filius, yellow birch 81
Betula nigra Linnaeus, river birch 82
Betula populifolia Marshall, gray birch 83
Betula papyrifera Marshall, paper birch 84
Alnus rubra Bongard,[4] red alder 85
Alnus rhombifolia Nuttall, white alder 86
Fagus grandifolia Ehrhart, beech 87
Castanea pumila (Linnaeus) Miller, chinquapin 88
Castanea dentata (Marshall) Borkhausen, chestnut 89
Lithocarpus densiflora (Hooker and Arnott) Rehder, tanoak 90
Quercus borealis Michaux filius, red oak 91
Quercus borealis maxima (Marshall) Ashe, red oak 92
Quercus palustris Muenchhausen, pin oak 93
Quercus shumardii Buckley, Shumard red oak 94
Quercus ellipsoidalis E. J. Hill, jack oak 95
Quercus coccinea Muenchhausen
Quercus coccinea tuberculata Sargent, scarlet oak 96
Quercus velutina La Marck
Quercus velutina missouriensis Sargent, black oak 97
Quercus kelloggii Newberry, California black oak 98
Quercus ilicifolia Wangenheim, bear oak 99
Quercus rubra Linnaeus, southern red oak 100
Quercus rubra pagodaefolia (Elliott) Ashe, swamp red oak 101
Quercus marilandica Muenchhausen
Quercus marilandica ashei Sudworth, blackjack oak 102

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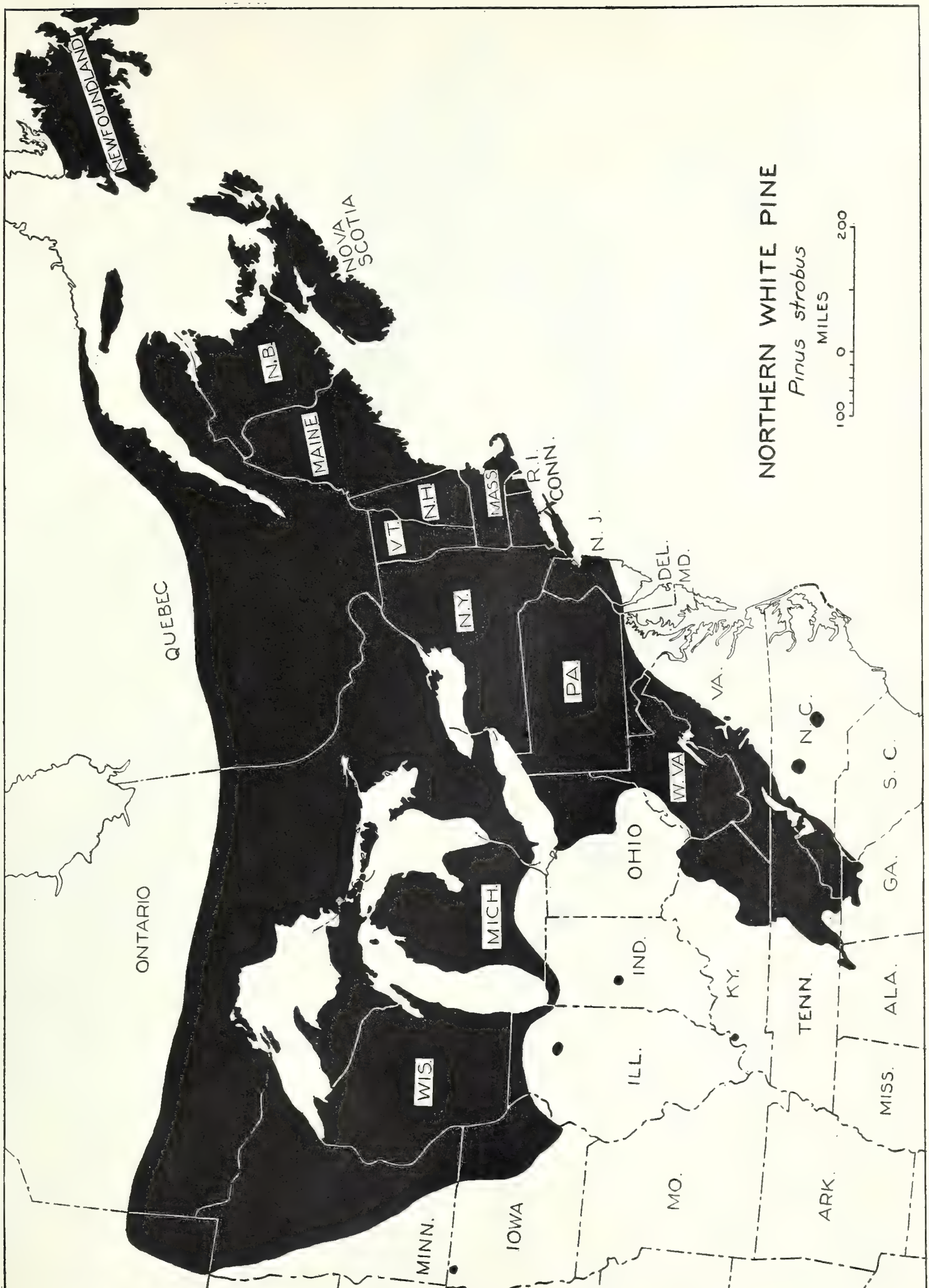
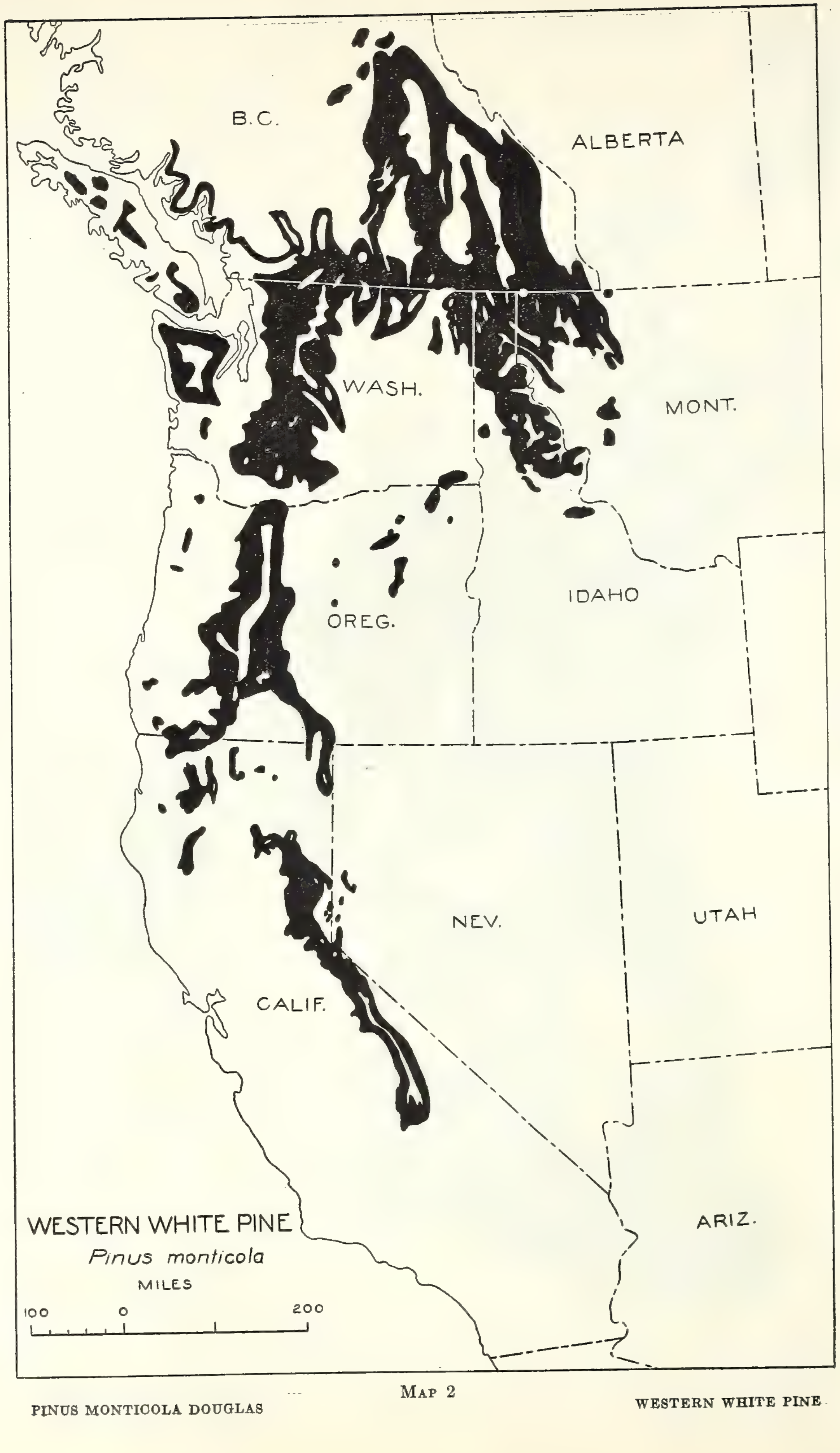
[4] Although this name has been adopted in the Check List many well-qualified taxonomists prefer *Alnus oregona* Nuttall.

Map no.
Quercus nigra Linnaeus, water oak 103
Quercus phellos Linnaeus, willow oak × *Quercus heterophylla* Michaux filius, Bartram oak 104
Quercus laurifolia Michaux, laurel oak 105
Quercus imbricaria Michaux, shingle oak 106
Quercus chrysolepis Liebmann, canyon live oak 107
Quercus virginiana Miller, live oak 108
Quercus douglasii Hooker and Arnott, California blue oak 109
Quercus alba Linnaeus, white oak 110
Quercus lobata Née, valley white oak 111
Quercus garryana Douglas, Oregon white oak 112
Quercus utahensis (A. de Candolle) Rydberg, Rocky Mountain white oak 113
Quercus stellata Wangenheim, post oak 114
Quercus macrocarpa Michaux, bur oak 115
Quercus bicolor Willdenow, swamp white oak 116
Quercus prinus Linnaeus, swamp chestnut oak 117
Quercus montana Willdenow, chestnut oak 118
Quercus muehlenbergii Engelmann, chinquapin oak 119
Ulmus americana Linnaeus, American elm 120
Celtis occidentalis Linnaeus, hackberry 121
Celtis laevigata Willdenow, sugarberry 122
Morus rubra Linnaeus, red mulberry 123
Toxylon pomiferum Rafinesque, osage-orange 124
Magnolia virginiana Linnaeus, sweetbay 125
Magnolia acuminata Linnaeus, cucumber magnolia 126
Liriodendron tulipifera Linnaeus, yellow poplar 127
Umbellularia californica (Hooker and Arnott) Nuttall, California-laurel 128
Sassafras variifolium (Salisbury) Kuntze, sassafras 129
Hamamelis virginiana Linnaeus, witch-hazel 130
Liquidambar styraciflua Linnaeus, red gum 131
Platanus occidentalis Linnaeus, sycamore 132
Amelanchier canadensis (Linnaeus) Medicus, serviceberry 133
Cercocarpus ledifolius Nuttall, curlleaf mountain-mahogany 134
Prunus americana Marshall, wild plum 135

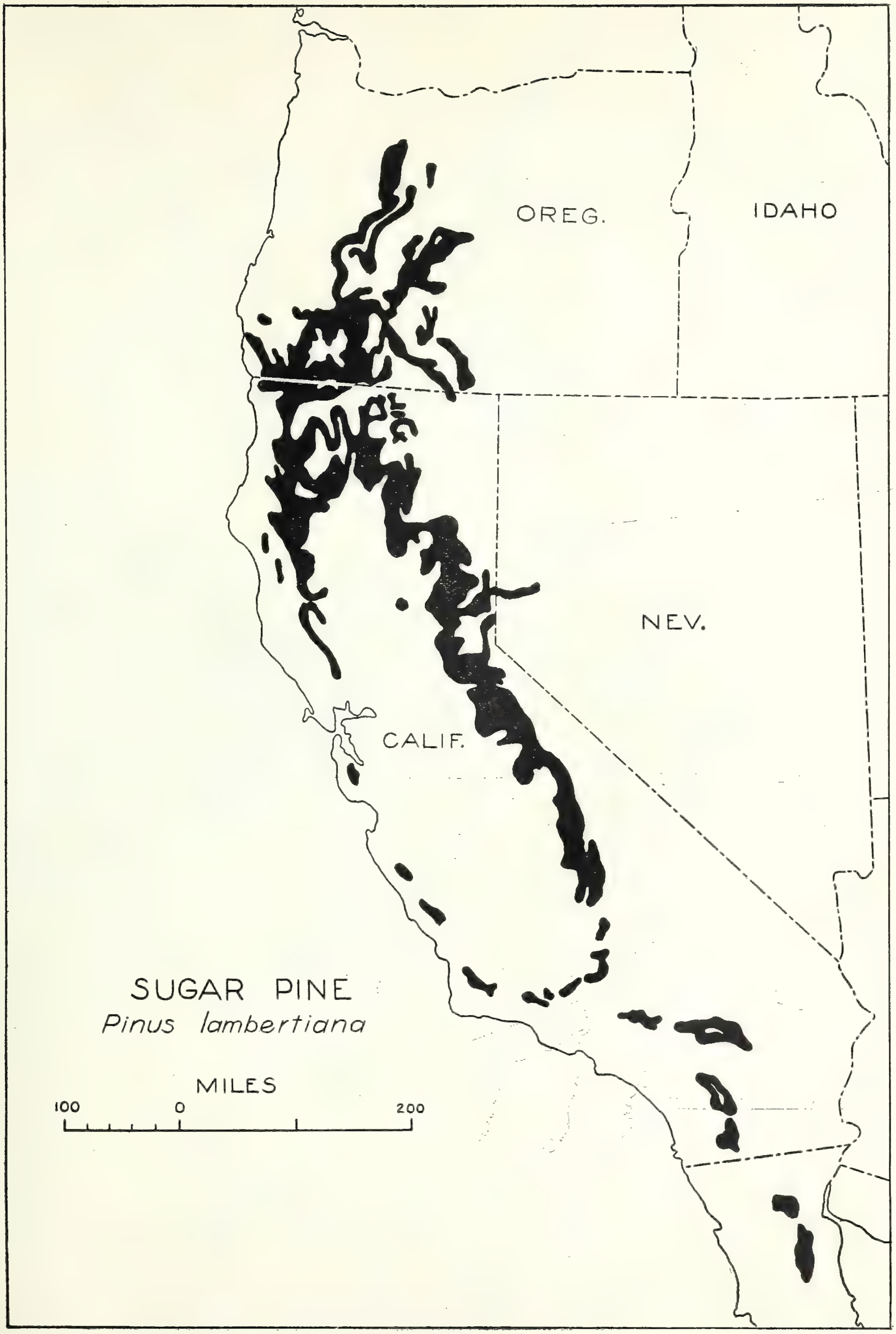
Map no.
Prunus pennsylvanica Linnaeus filius, pin cherry 136
Prunus virginiana Linnaeus, chokecherry 137
Prunus serotina Ehrhart, black cherry 138
Cercis canadensis Linnaeus, redbud 139
Cercis occidentalis Torrey, California redbud 140
Gymnocladus dioicus (Linnaeus) K. Koch, coffeetree 141
Gleditsia triacanthos Linnaeus, honeylocust 142
Robinia pseudoacacia Linnaeus, black locust 143
Ptelea trifoliata Linnaeus, hoptree 144
Ilex opaca Aiton, holly 145
Acer pennsylvanicum Linnaeus, striped maple 146
Acer macrophyllum Pursh, bigleaf maple 147
Acer saccharum Marshall, sugar maple 148
Acer nigrum Michaux filius, black maple 149
Acer saccharinum Linnaeus, silver maple 150
Acer rubrum Linnaeus, red maple 151
Acer negundo Linnaeus, boxelder 152
Aesculus glabra Willdenow, Ohio buckeye 153
Aesculus octandra Marshall, yellow buckeye 154
Rhamnus purshiana de Candolle, cascara 155
Tilia glabra Ventenat, basswood 156
Nyssa sylvatica Marshall, black gum 157
Nyssa aquatica Linnaeus, tupelo gum 158
Cornus florida Linnaeus, dogwood 159
Rhododendron maximum Linnaeus, great rhododendron 160
Kalmia latifolia Linnaeus, mountain-laurel 161
Diospyros virginiana Linnaeus, persimmon 162
Fraxinus quadrangulata Michaux, blue ash 163
Fraxinus nigra Marshall, black ash 164
Fraxinus americana Linnaeus, white ash 165
Fraxinus biltmoreana Beadle, Biltmore white ash 166
Fraxinus pennsylvanica Marshall, red ash 167
Fraxinus pennsylvanica lanceolata (Borkhausen) Sargent, green ash 168
Fraxinus oregona Nuttall, Oregon ash 169
Catalpa speciosa Warder, hardy catalpa 170


NORTHERN WHITE PINE
Pinus strobus
MILES
100
0
200
NEWFOUNDLAND
NOVA SCOTIA
N.B.
MAINE
QUEBEC
N.H.
VT.
MASS.
R.I.
CONN.
N.J.
DEL.
MD.
N.Y.
PA.
VA.
N.C.
S.C.
W.VA.
OHIO
GA.
ONTARIO
MICH.
IND.
KY.
TENN.
ALA.
WIS.
ILL.
MISS.
MO.
ARK.
IOWA
MINN.

Map 1

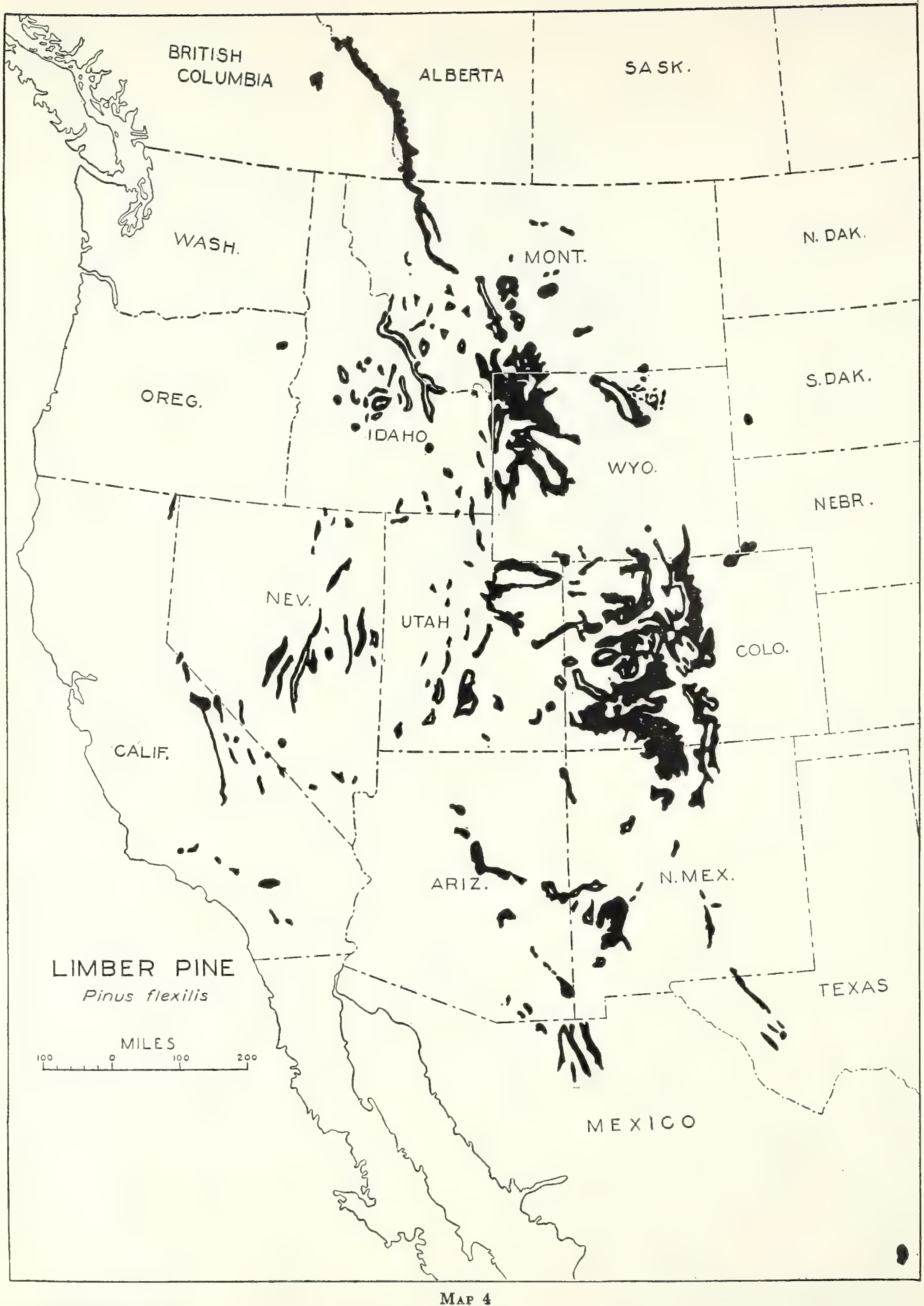

B.C.
ALBERTA
WASH.
MONT.
OREG.
IDAHO
NEV.
UTAH
CALIF.
ARIZ.
WESTERN WHITE PINE
Pinus monticola
MILES
100
0
200

MAP 2

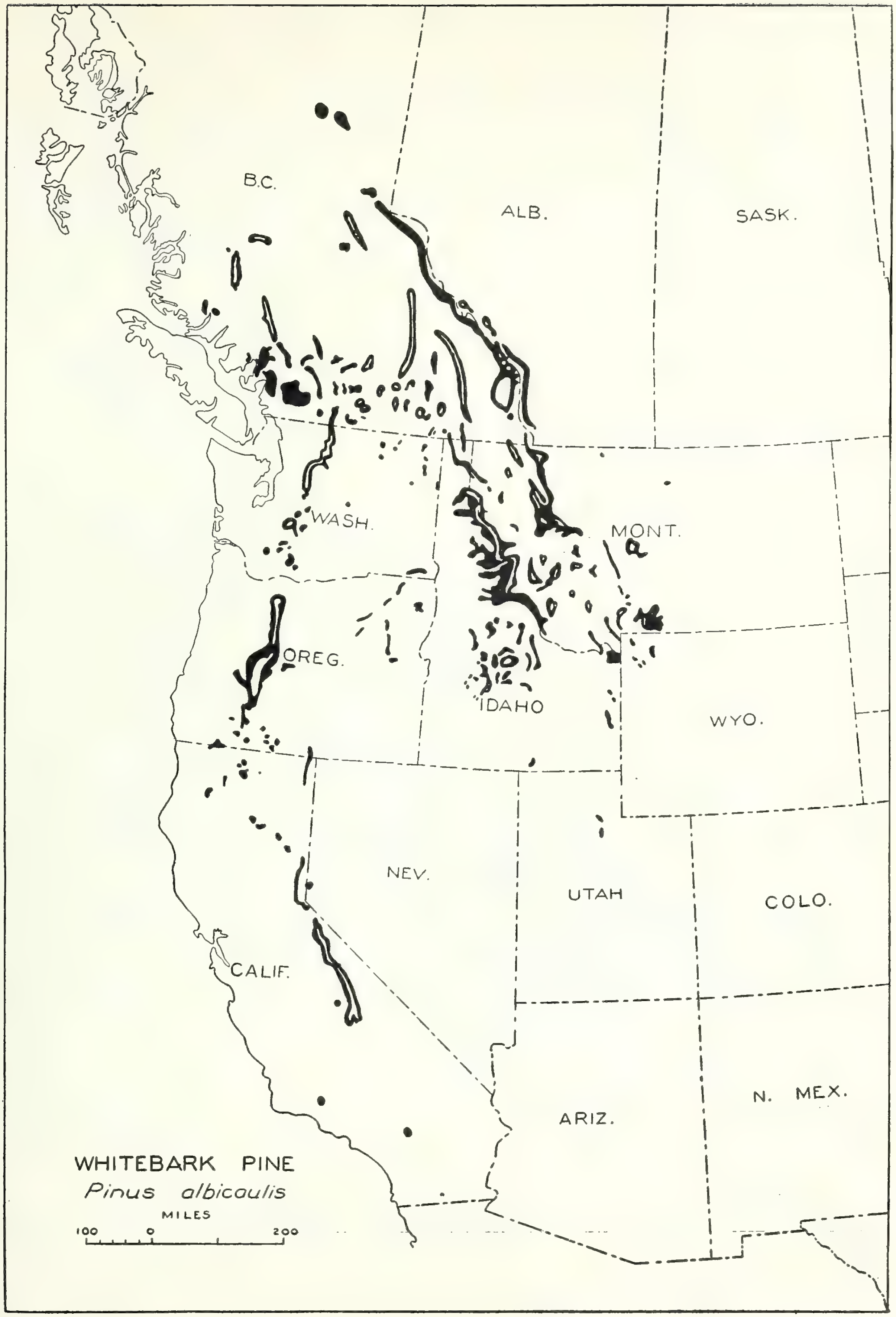


Map. 3

PINUS LAMBERTIANA DOUGLAS SUGAR PINE

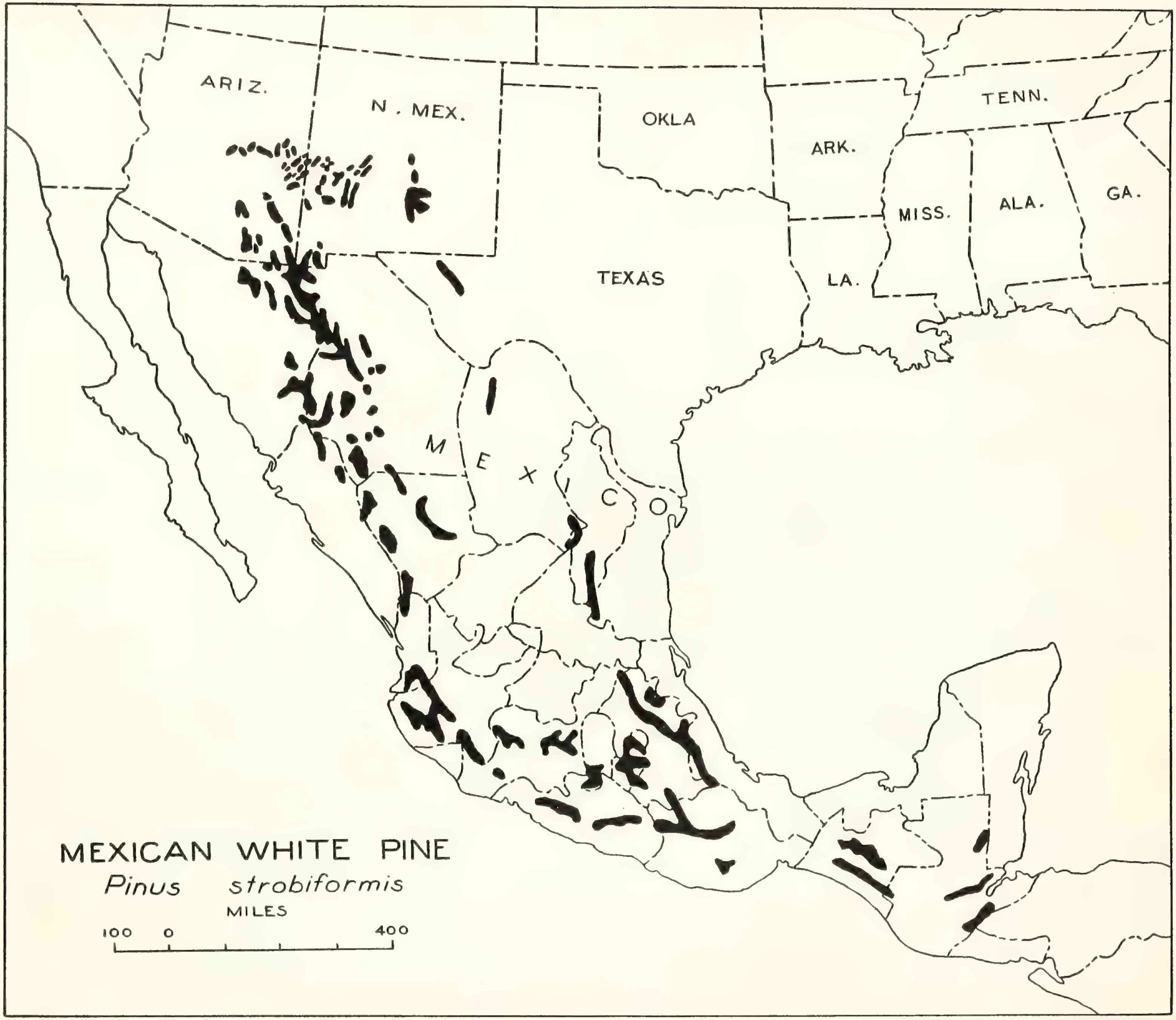

BRITISH COLUMBIA
ALBERTA
SASK.
WASH.
MONT.
N. DAK.
OREG.
IDAHO
S. DAK.
WYO.
NEBR.
NEV.
UTAH
COLO.
CALIF.
ARIZ.
N. MEX.
TEXAS
LIMBER PINE
Pinus flexilis
MILES
100
0
100
200
MEXICO

Map 4



Map 5

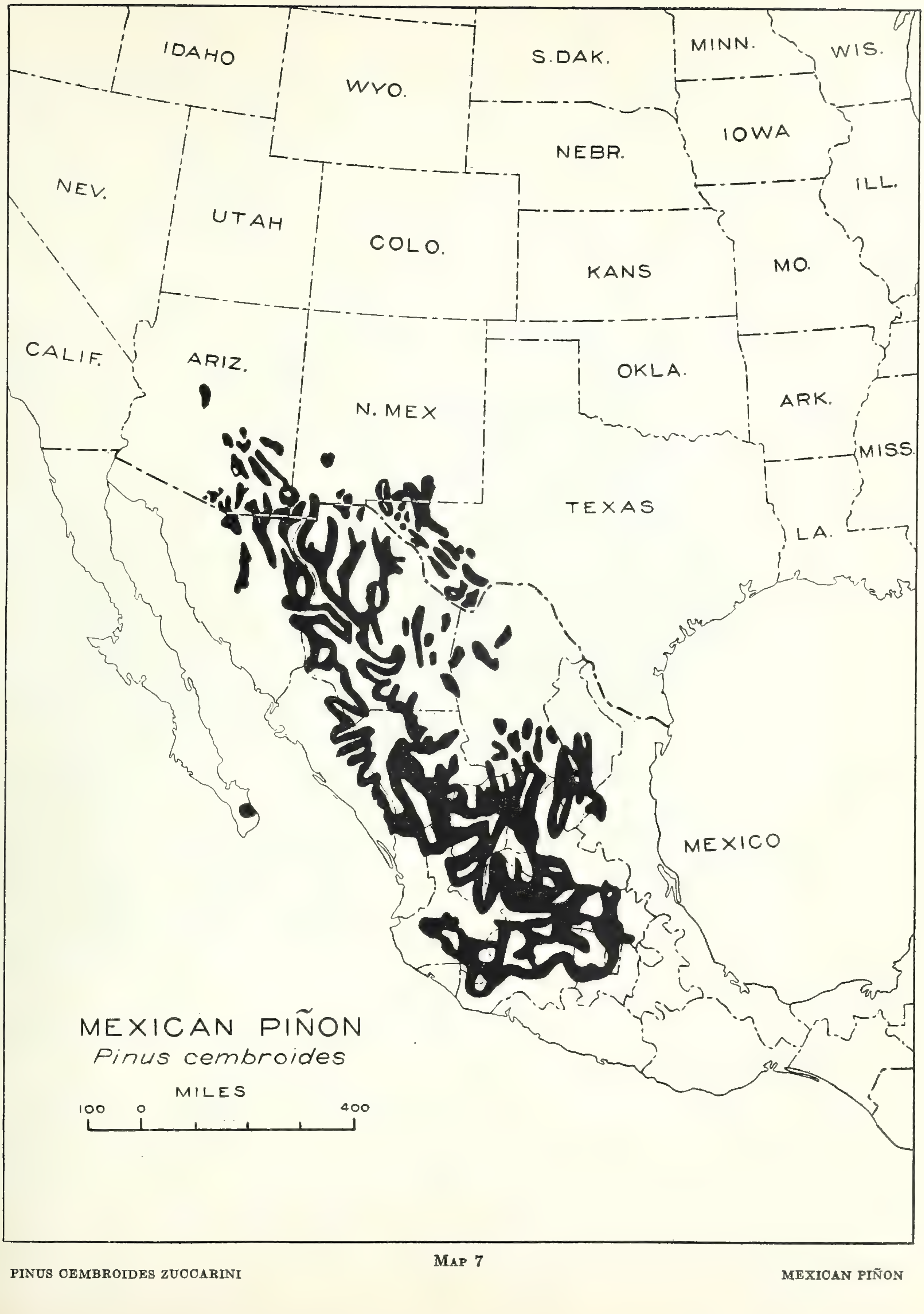
PINUS ALBICAULIS ENGELMANN — WHITEBARK PINE



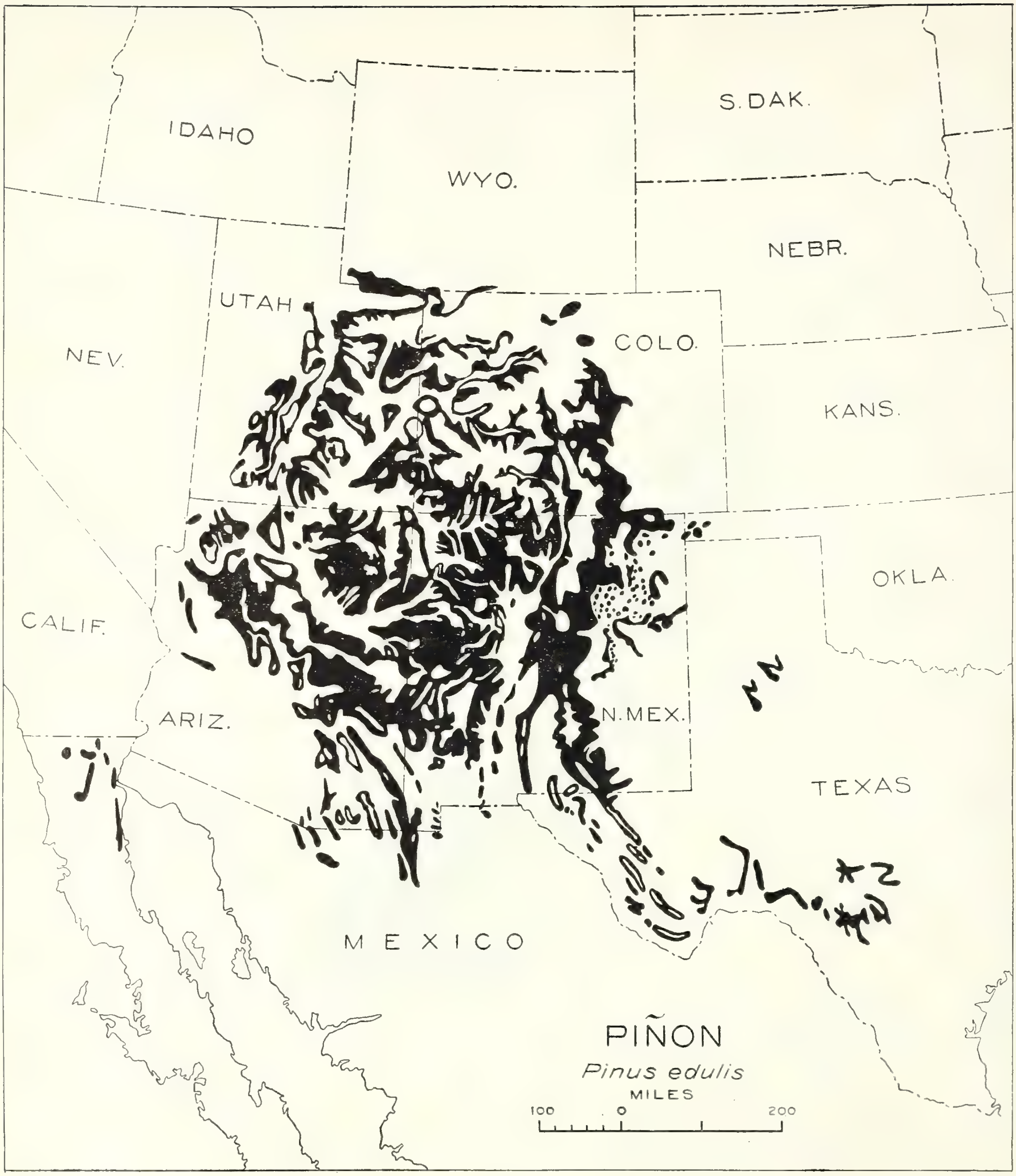
Map 6

PINUS STROBIFORMIS ENGELMANN

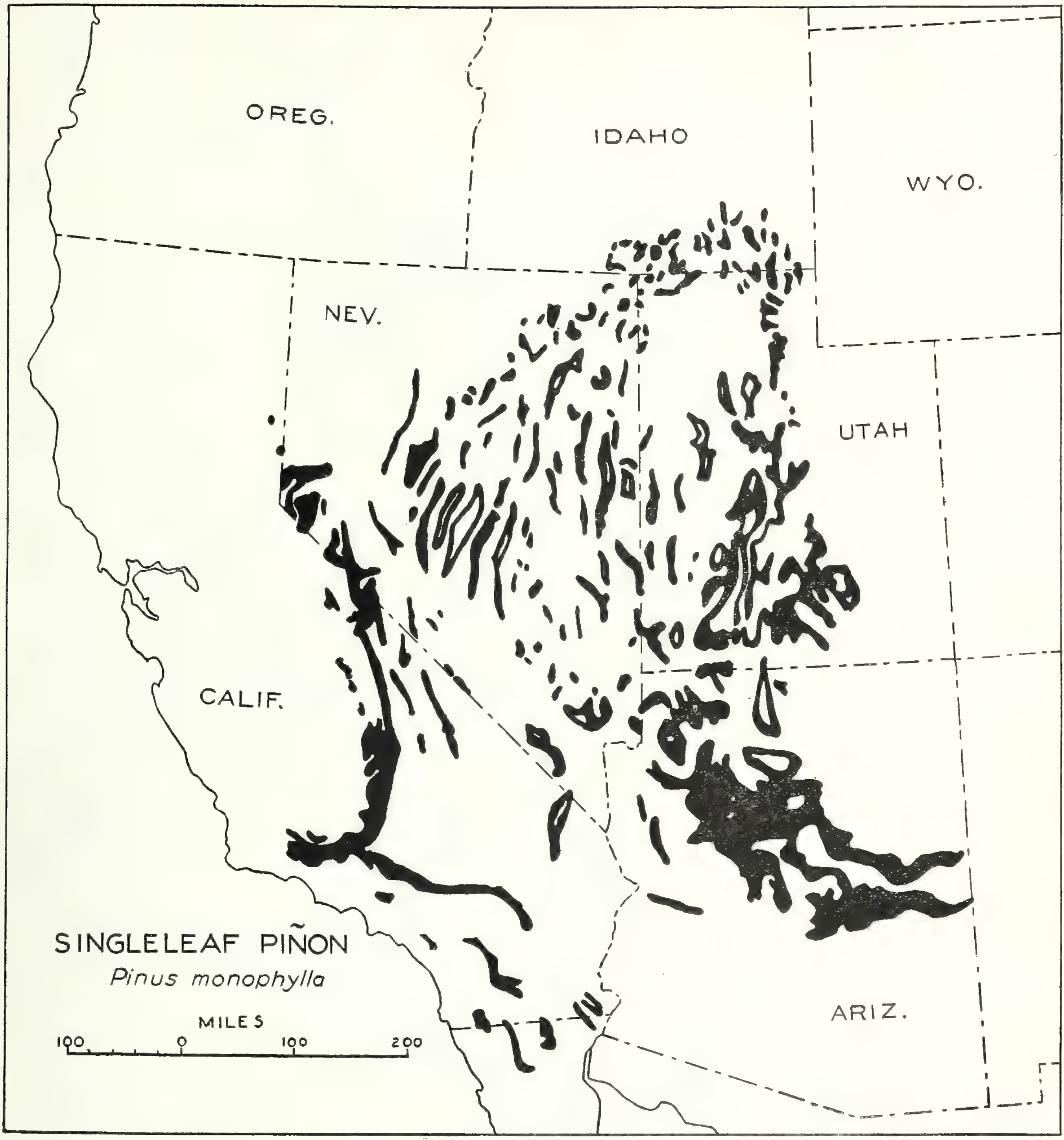
MEXICAN WHITE PINE


IDAHO
WYO.
S. DAK.
MINN.
WIS.
NEV.
UTAH
COLO.
NEBR.
IOWA
ILL.
KANS
MO.
CALIF.
ARIZ.
N. MEX
OKLA.
ARK.
MISS.
TEXAS
LA.
MEXICO
MEXICAN PIÑON
Pinus cembroides
MILES
100
0
400

Map 7

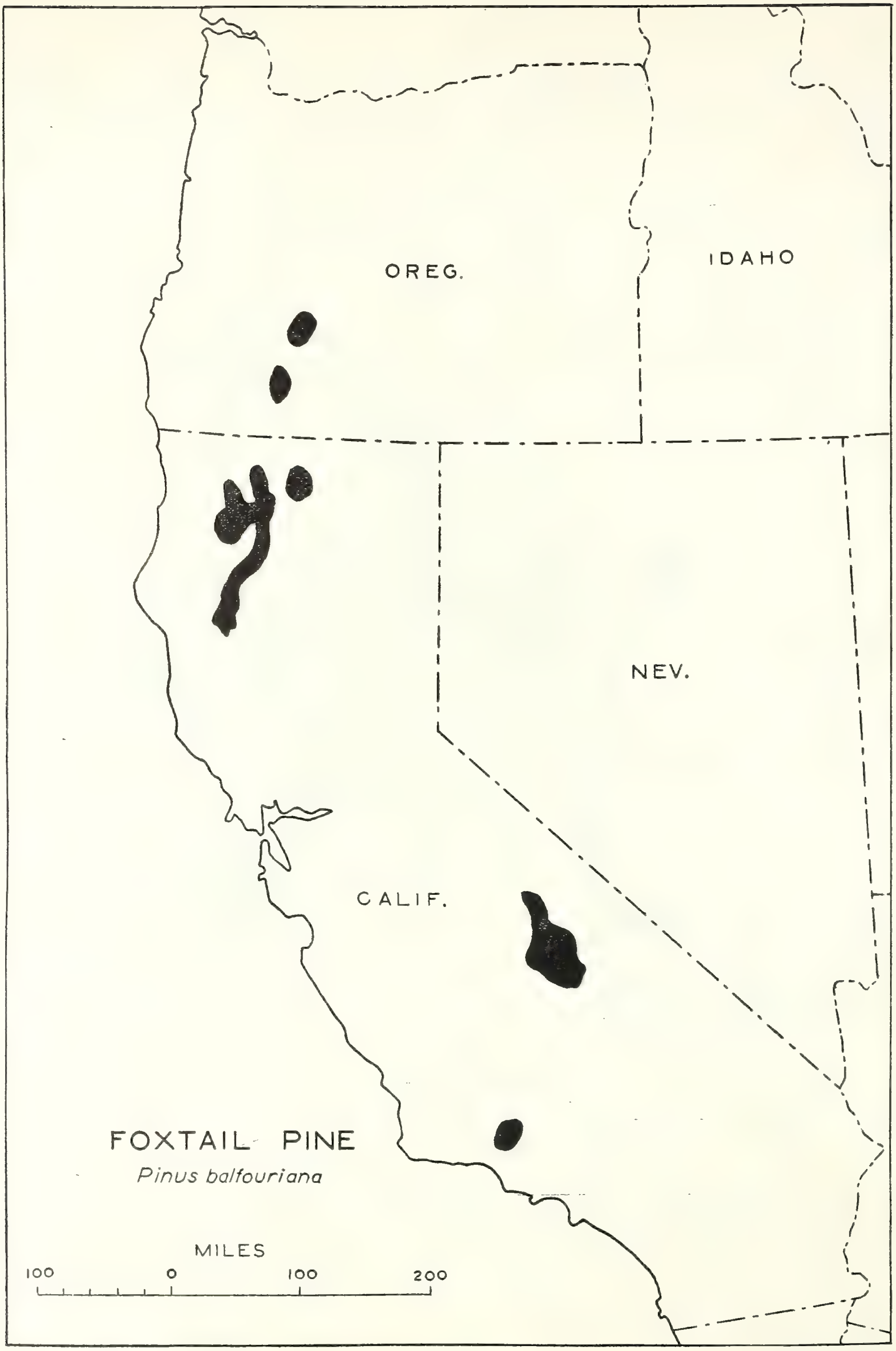

IDAHO
S. DAK.
WYO.
NEBR.
UTAH
COLO.
NEV.
KANS.
OKLA.
CALIF.
ARIZ.
N. MEX.
TEXAS
MEXICO
PIÑON
Pinus edulis
MILES
100
0
200

Map 8



MAP 9

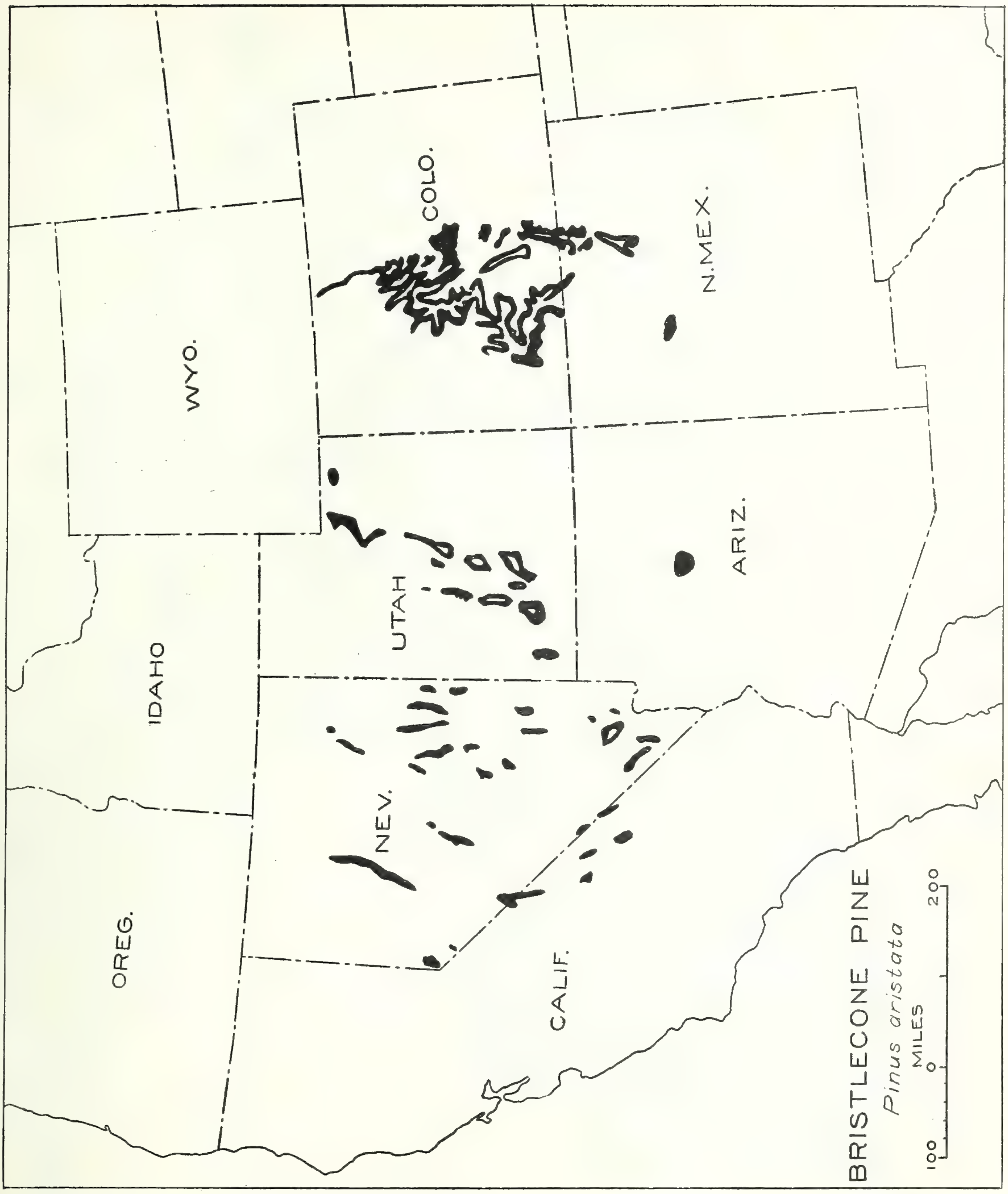
PINUS MONOPHYLLA TORREY AND FREMONT — SINGLELEAF PIÑON



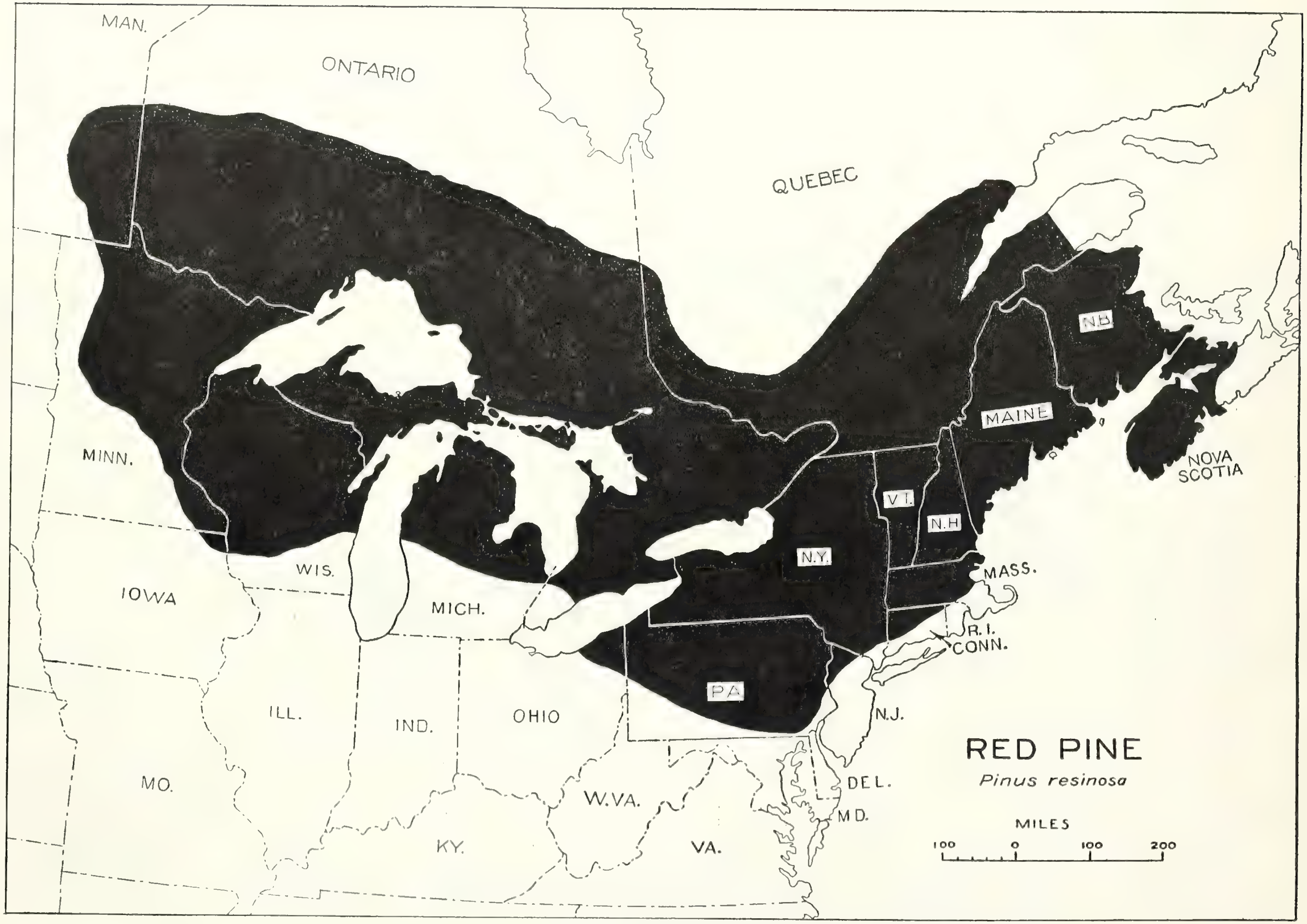
Map 10

PINUS BALFOURIANA A. MURRAY

FOXTAIL PINE



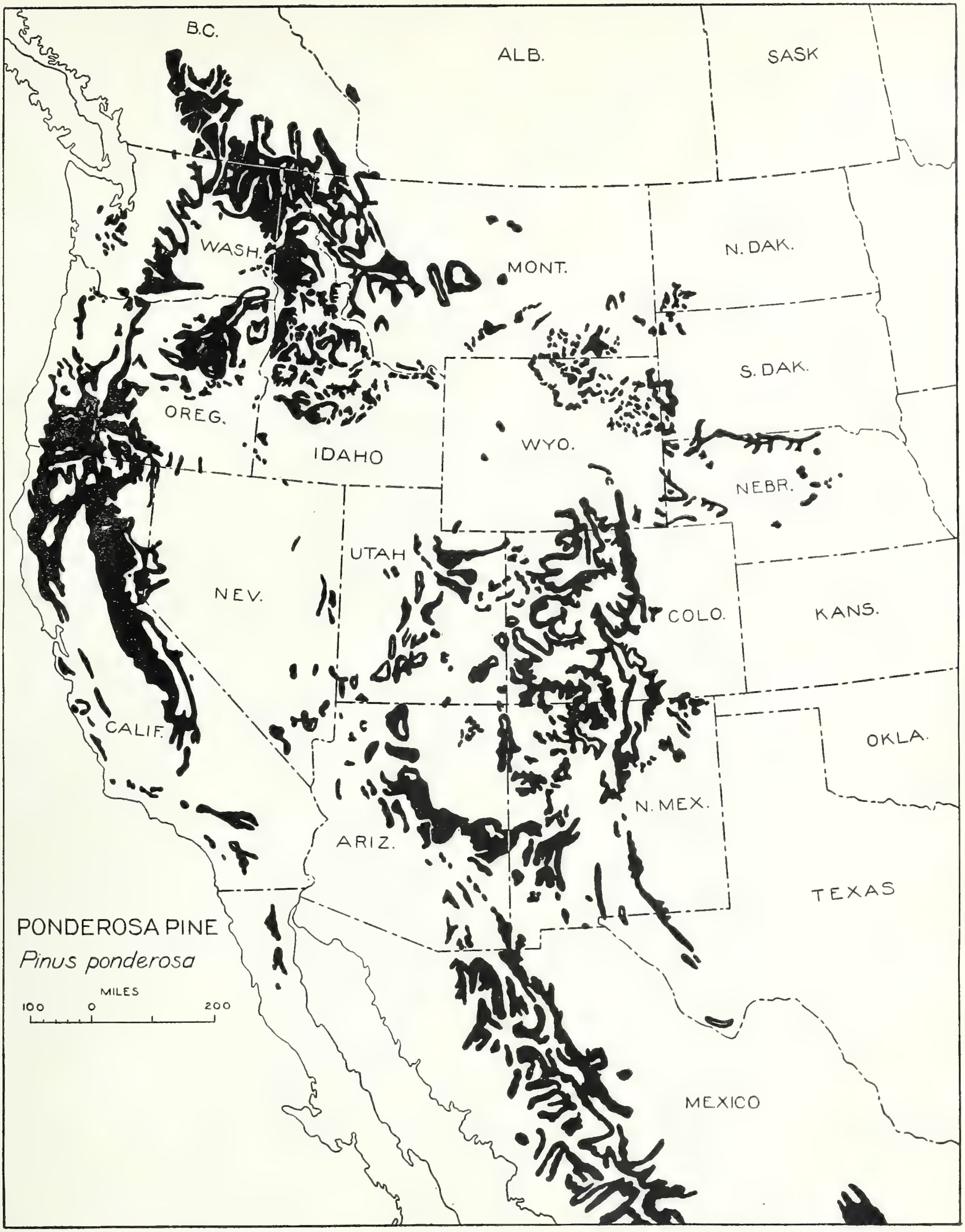
PINUS ARISTATA ENGELMANN   MAP 11   BRISTLECONE PINE



Map 12

PINUS RESINOSA AITON

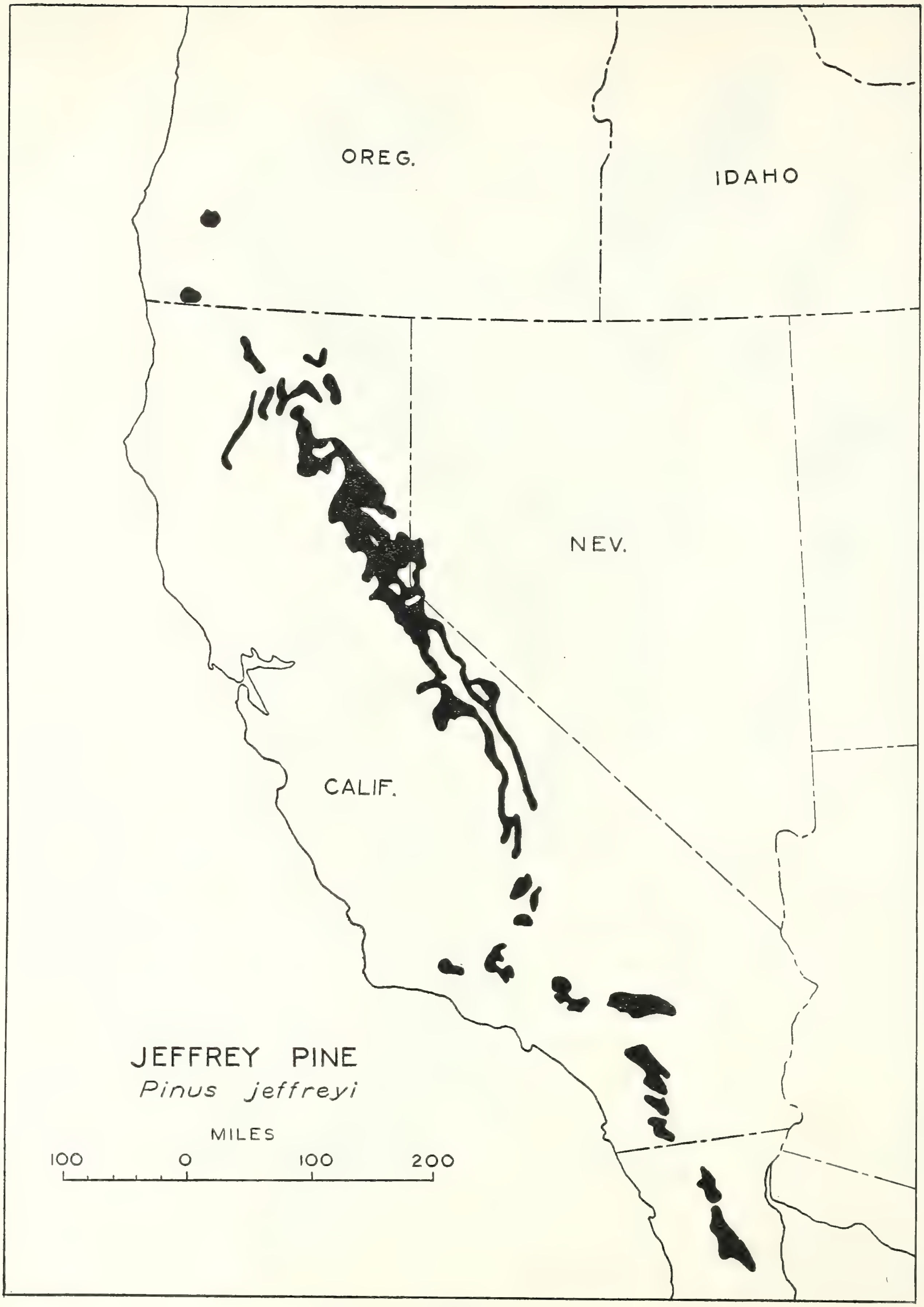
RED PINE



Map 13

PINUS PONDEROSA DOUGLAS

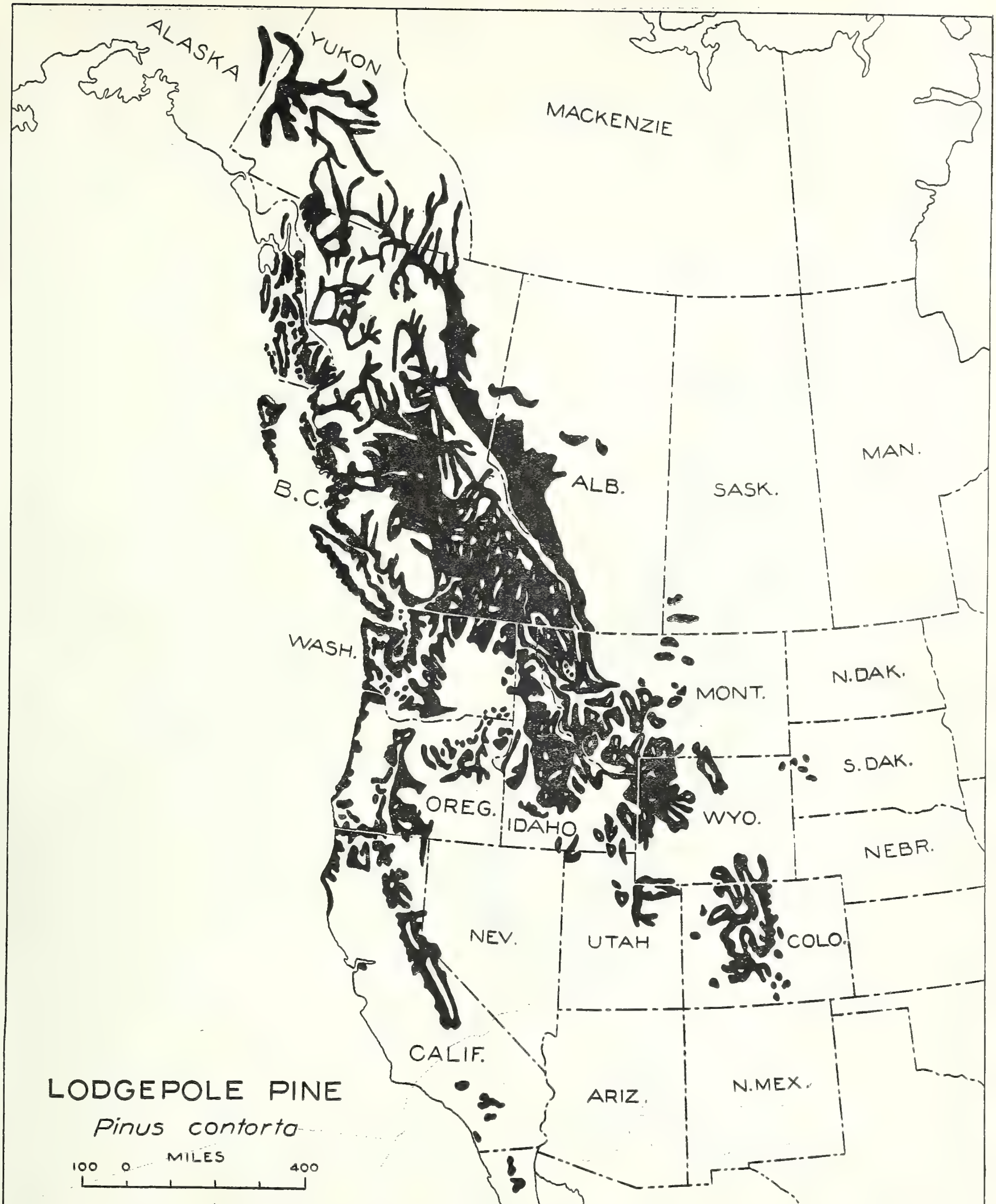
PONDEROSA PINE



Map 14

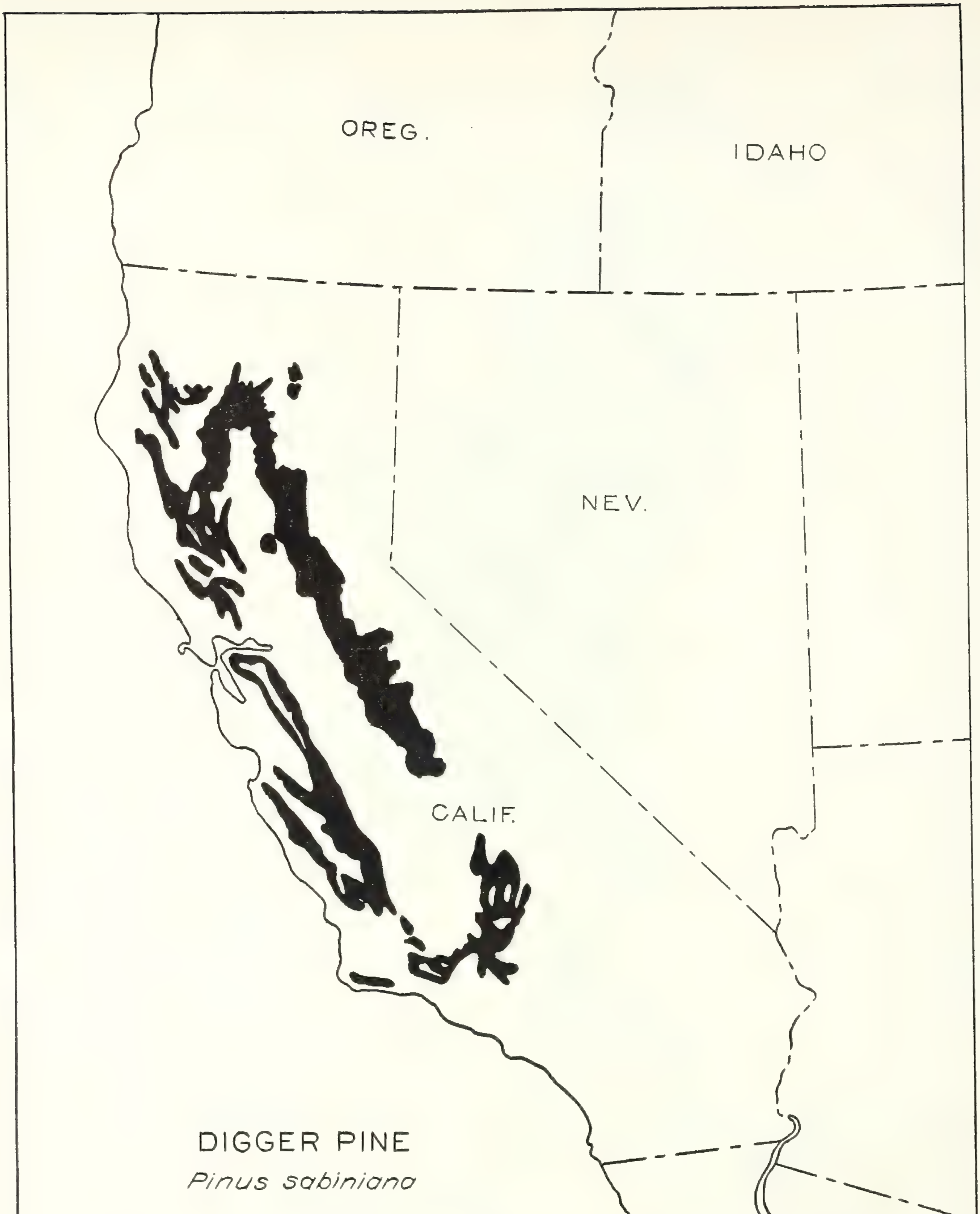
PINUS JEFFREYI GREVILLE AND BALFOUR

JEFFREY PINE



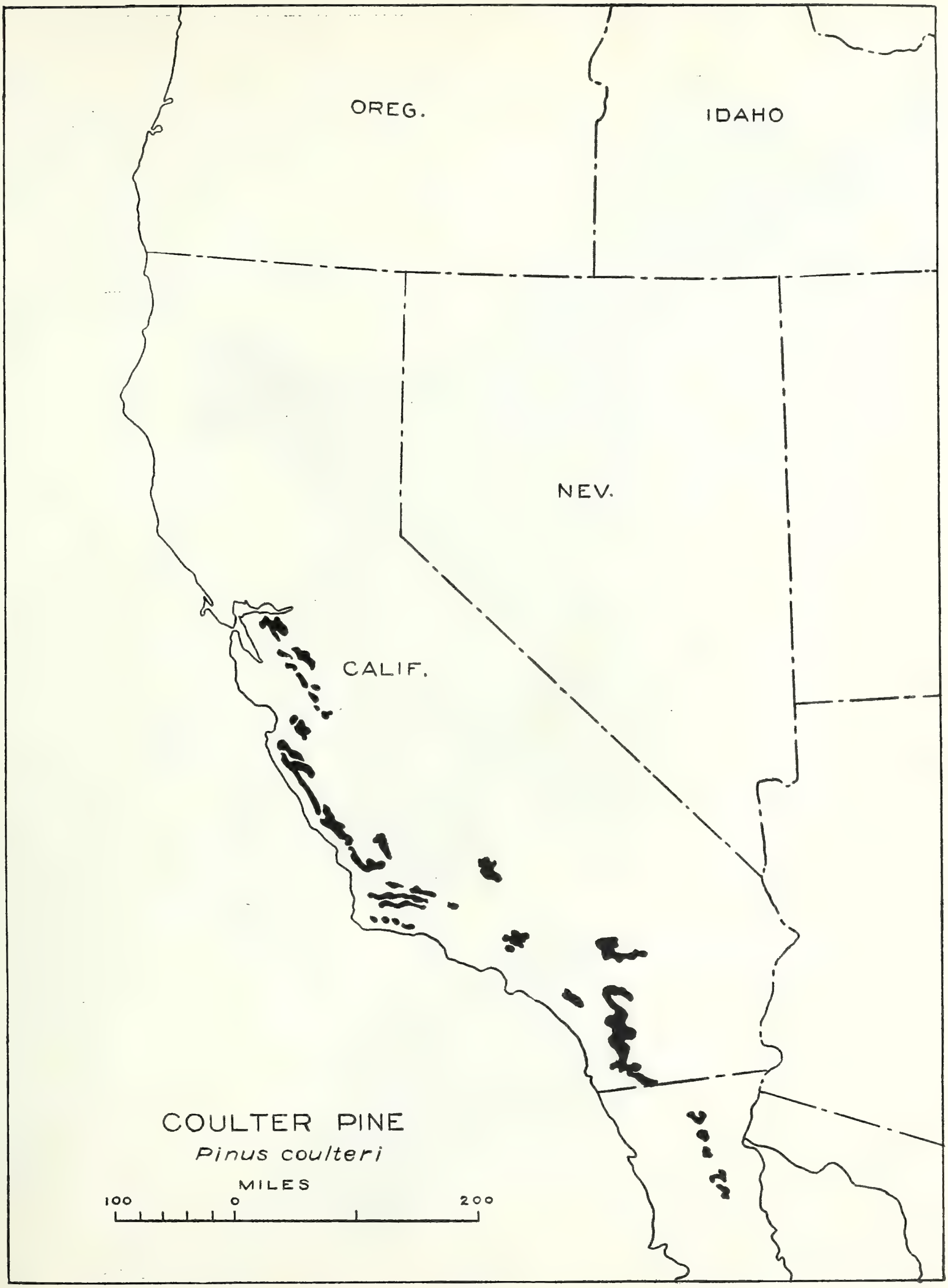
MAP 15

PINUS CONTORTA DOUGLAS LODGEPOLE PINE



Map 16

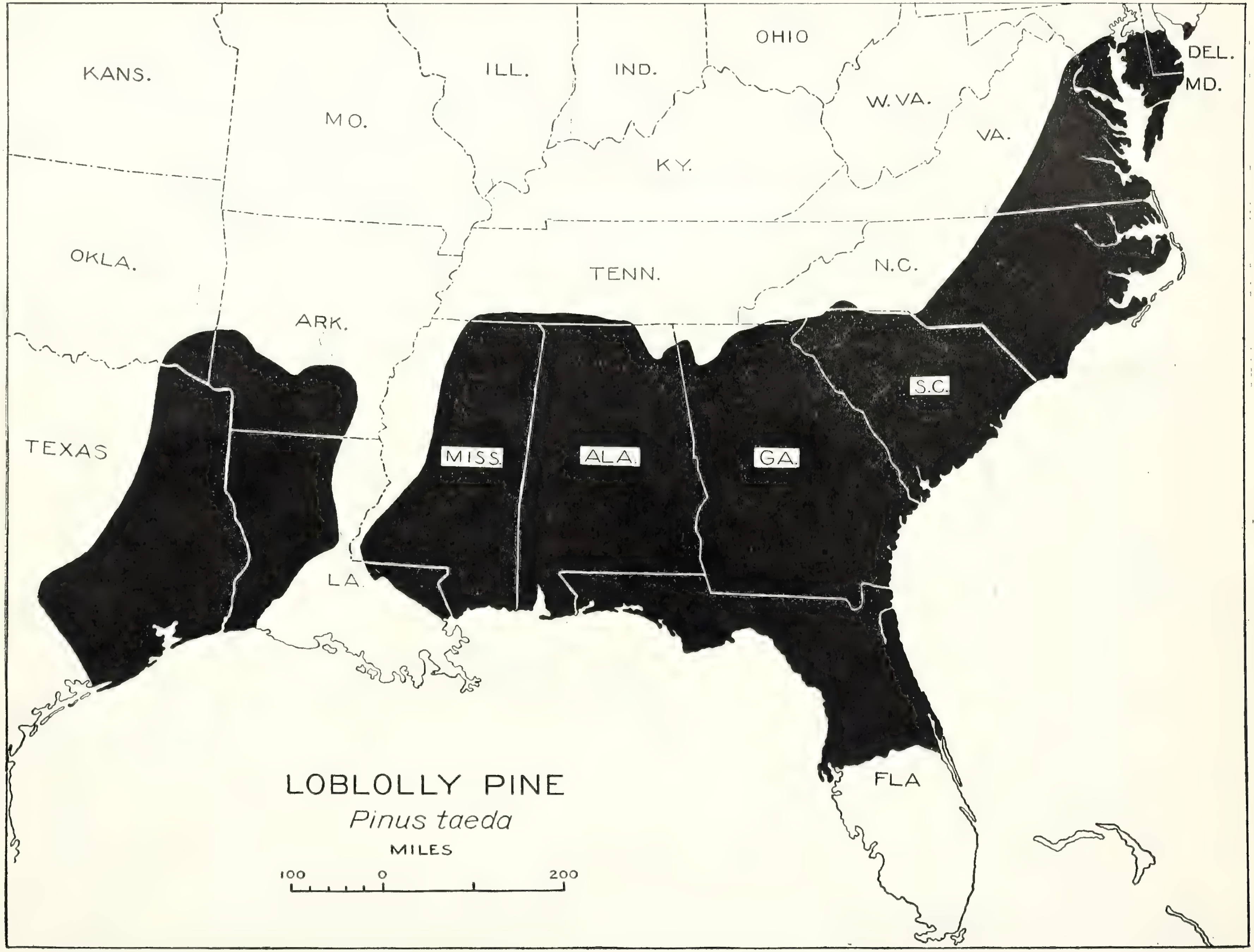
PINUS SABINIANA DOUGLAS DIGGER PINE



Map 17

PINUS COULTERI D. DON

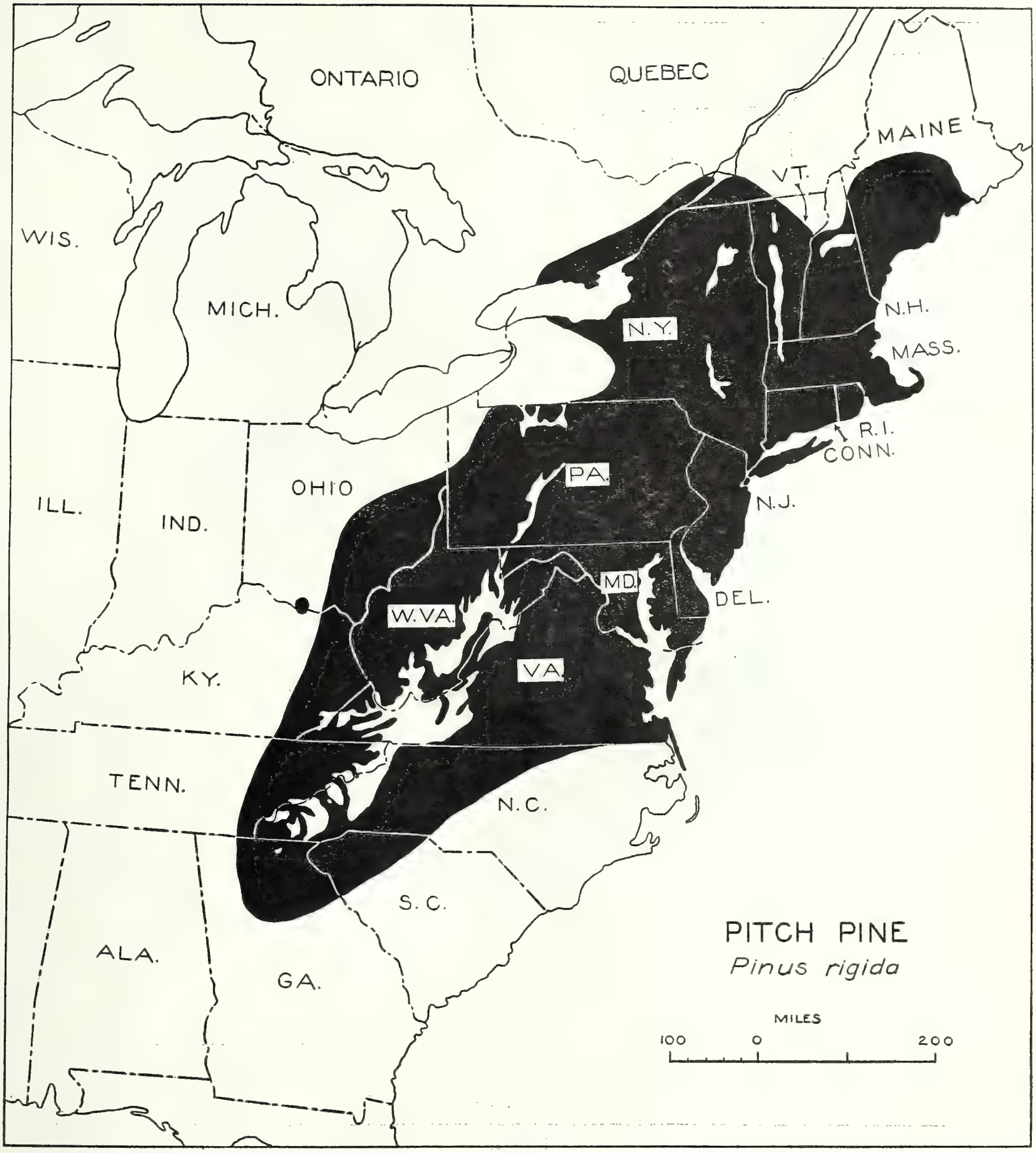
COULTER PINE



Map 18

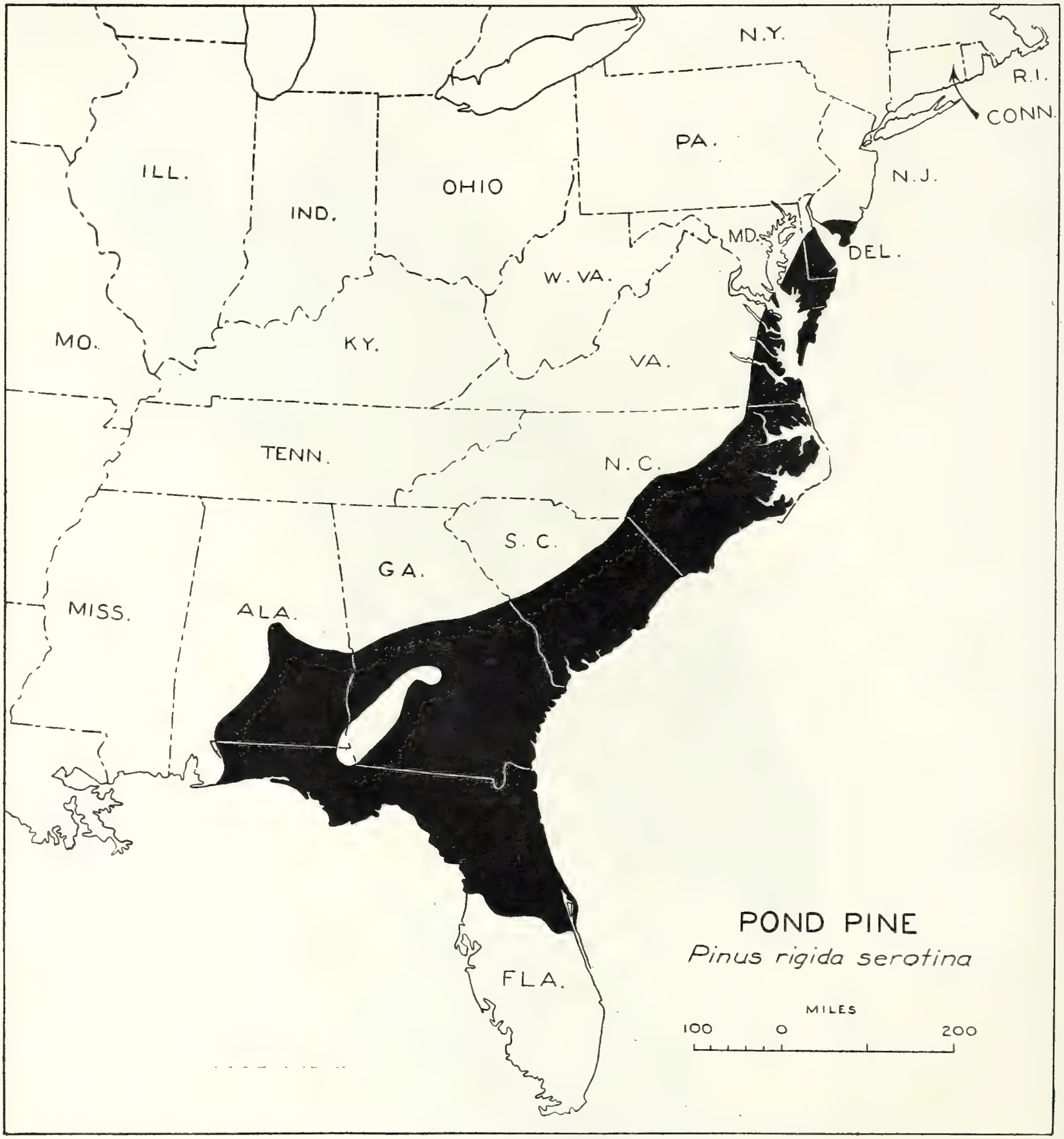
PINUS TAEDA LINNAEUS

LOBLOLLY PINE



Map 19

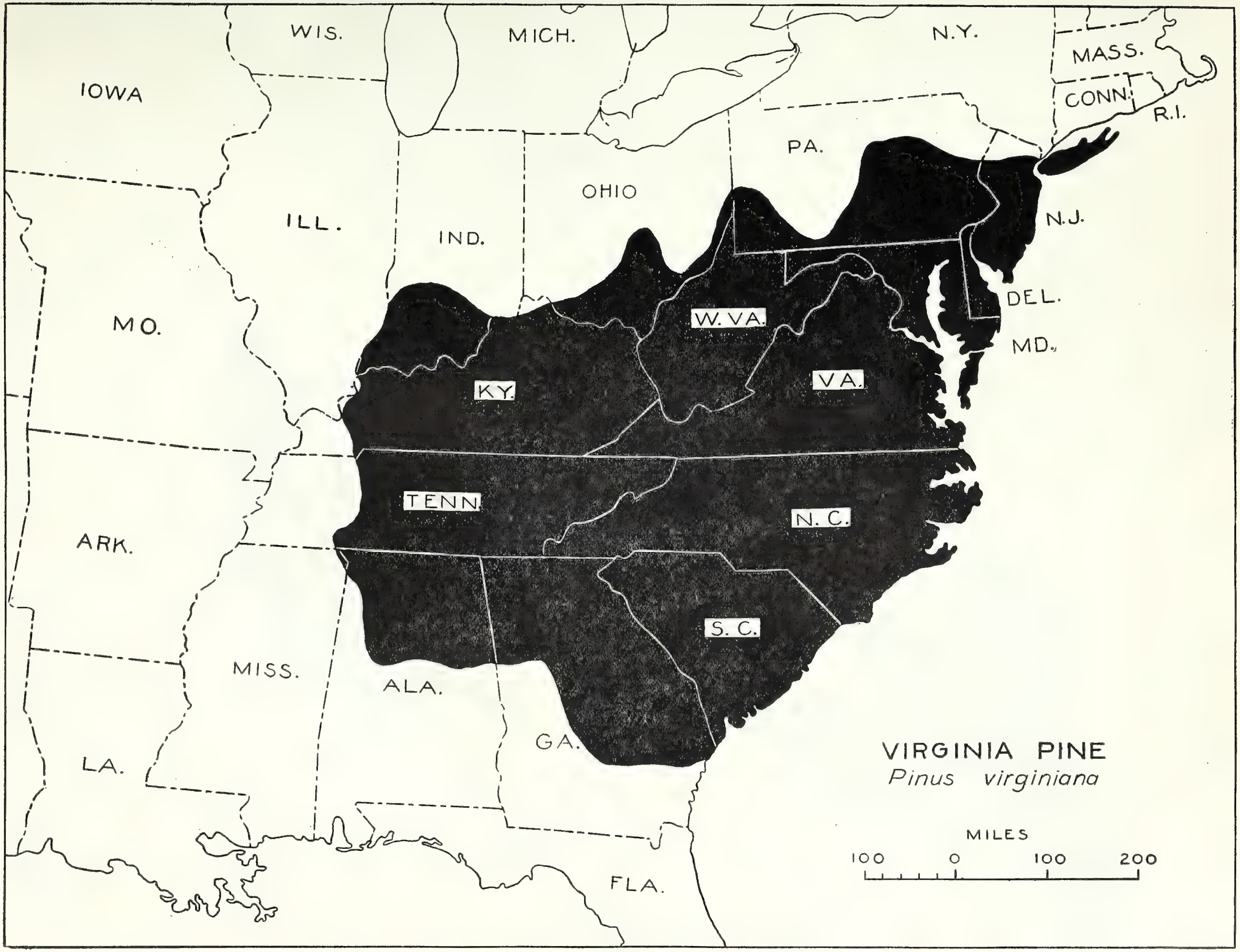
PINUS RIGIDA MILLER PITCH PINE



Map 20

PINUS RIGIDA SEROTINA (MICHAUX) LOUDON

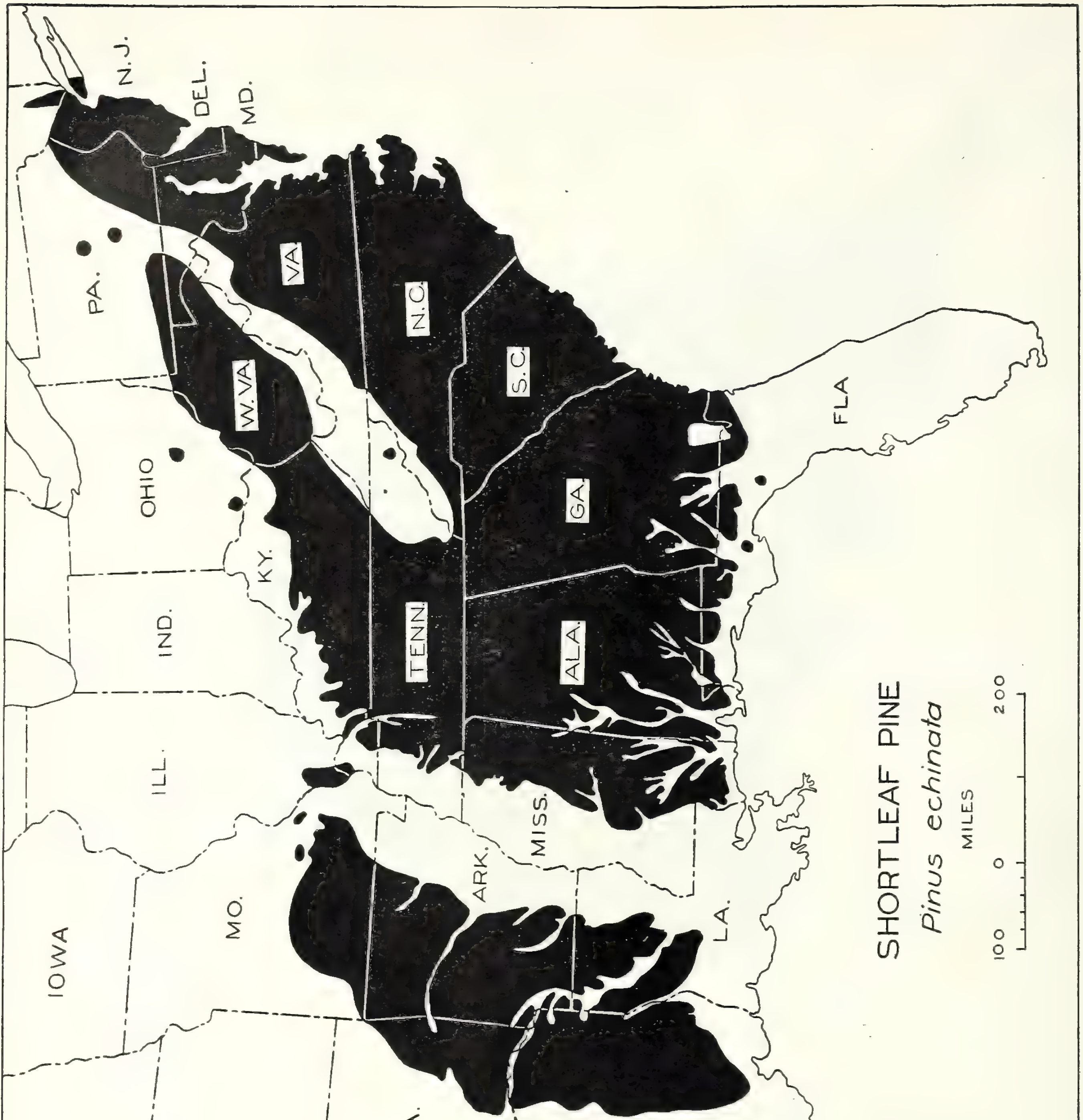
POND PINE



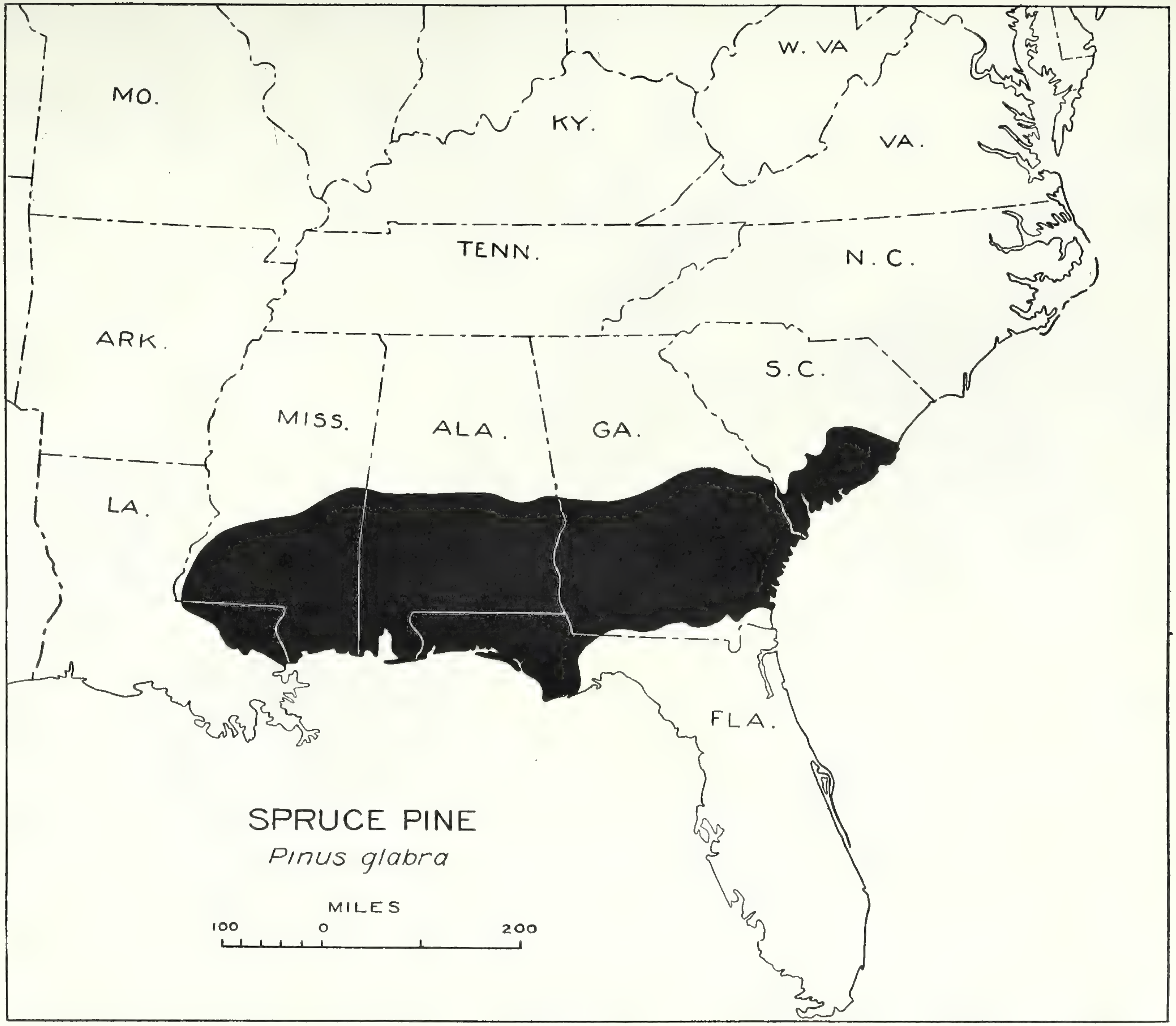
Map 21

PINUS VIRGINIANA MILLER

VIRGINIA PINE


SHORTLEAF PINE
Pinus echinata
MILES
100
0
200
N.J.
DEL.
MD.
PA.
VA.
W.VA.
OHIO
KY.
IND.
ILL.
IOWA
MO.
NEBR.
KANS.
OKLA.
TEXAS
ARK.
LA.
MISS.
TENN.
ALA.
GA.
N.C.
S.C.
FLA.

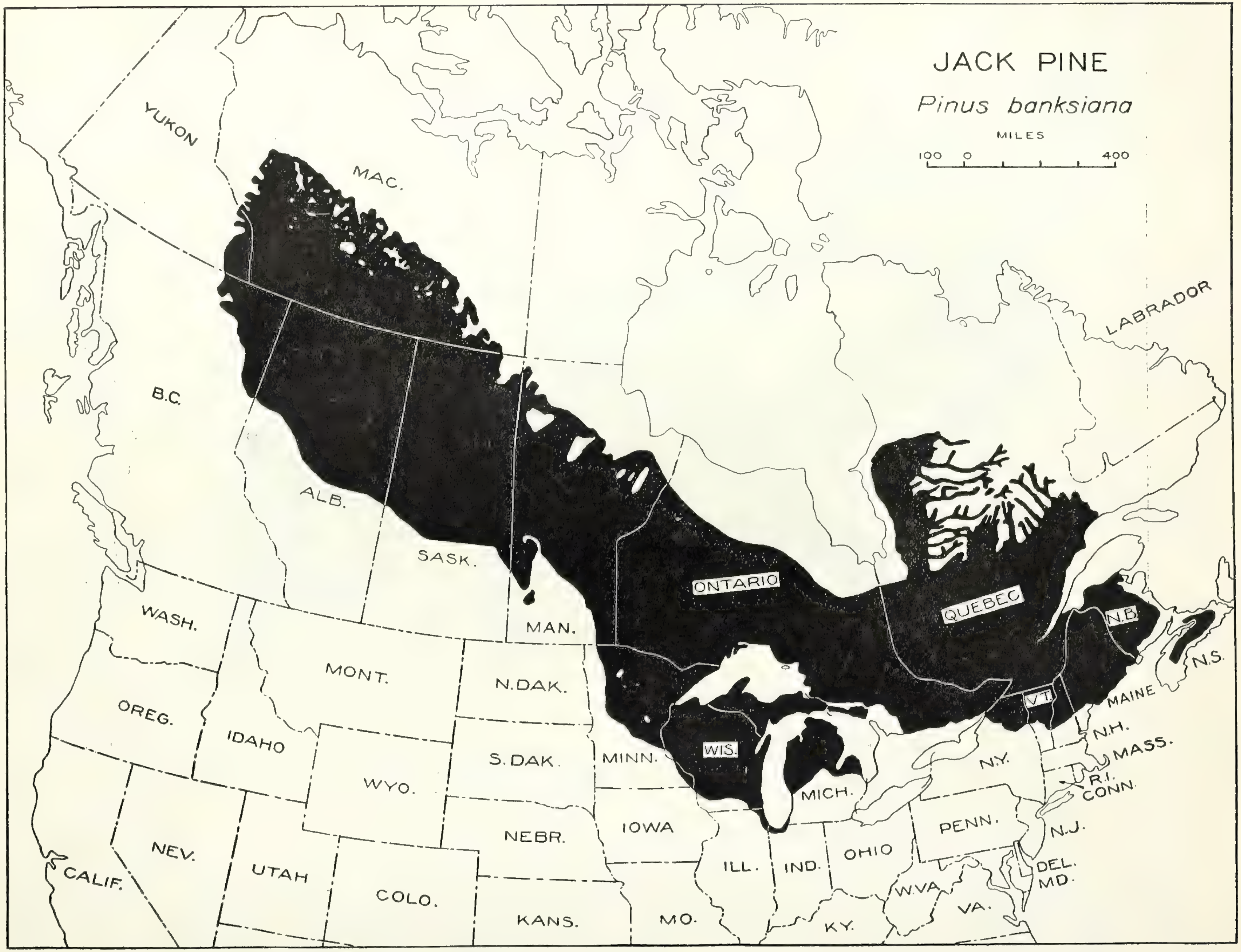
Map 22



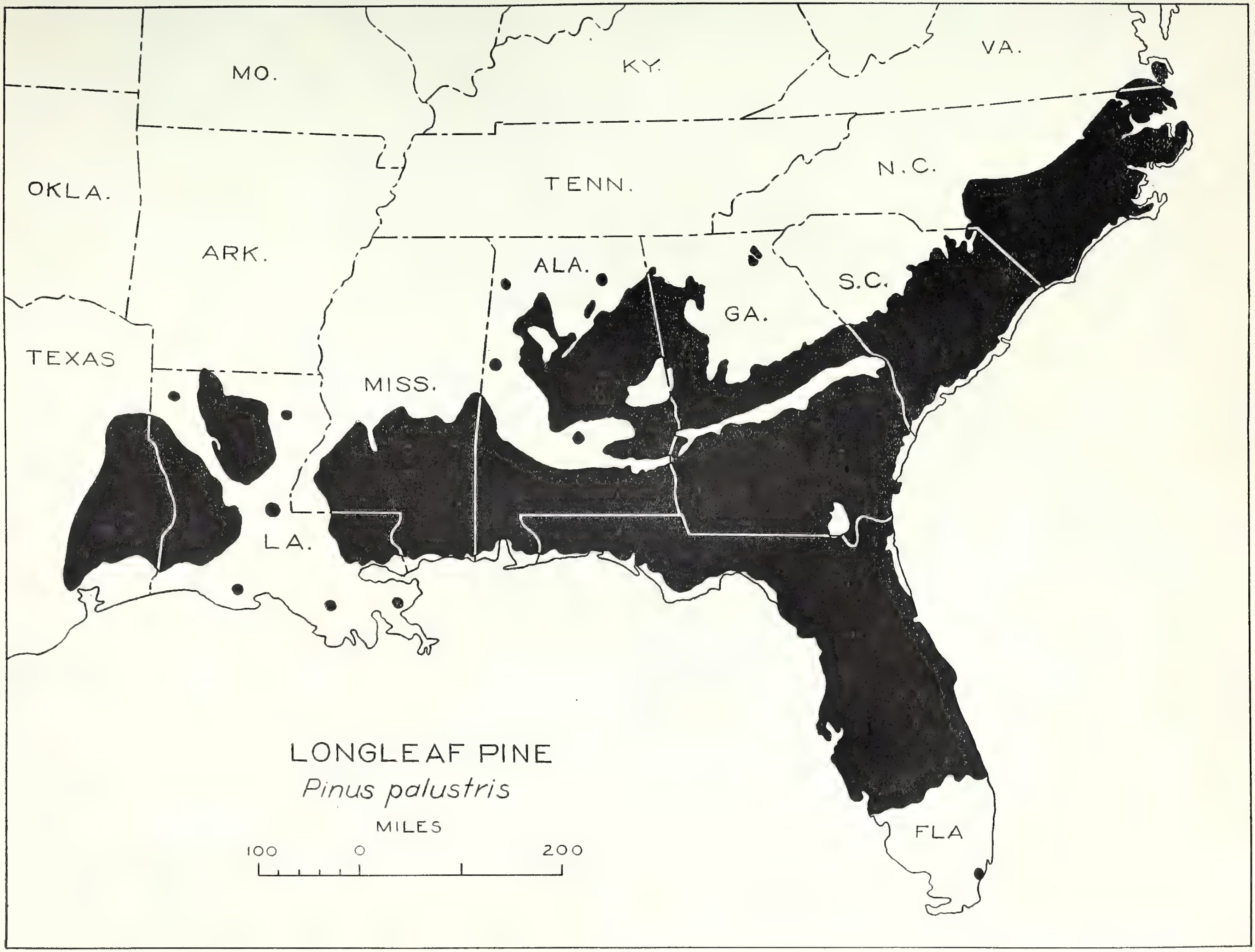
PINUS GLABRA WALTER

Map 23

SPRUCE PINE


JACK PINE
Pinus banksiana
MILES
100 0 400
YUKON
MAC.
LABRADOR
B.C.
ALB.
SASK.
MAN.
ONTARIO
QUEBEC
N.B.
N.S.
MAINE
VT.
N.H.
MASS.
R.I.
CONN.
N.Y.
N.J.
PENN.
DEL.
MD.
VA.
W.VA.
OHIO
KY.
IND.
ILL.
MICH.
WIS.
MINN.
IOWA
MO.
KANS.
NEBR.
S.DAK.
N.DAK.
MONT.
WYO.
COLO.
UTAH
IDAHO
WASH.
OREG.
NEV.
CALIF.

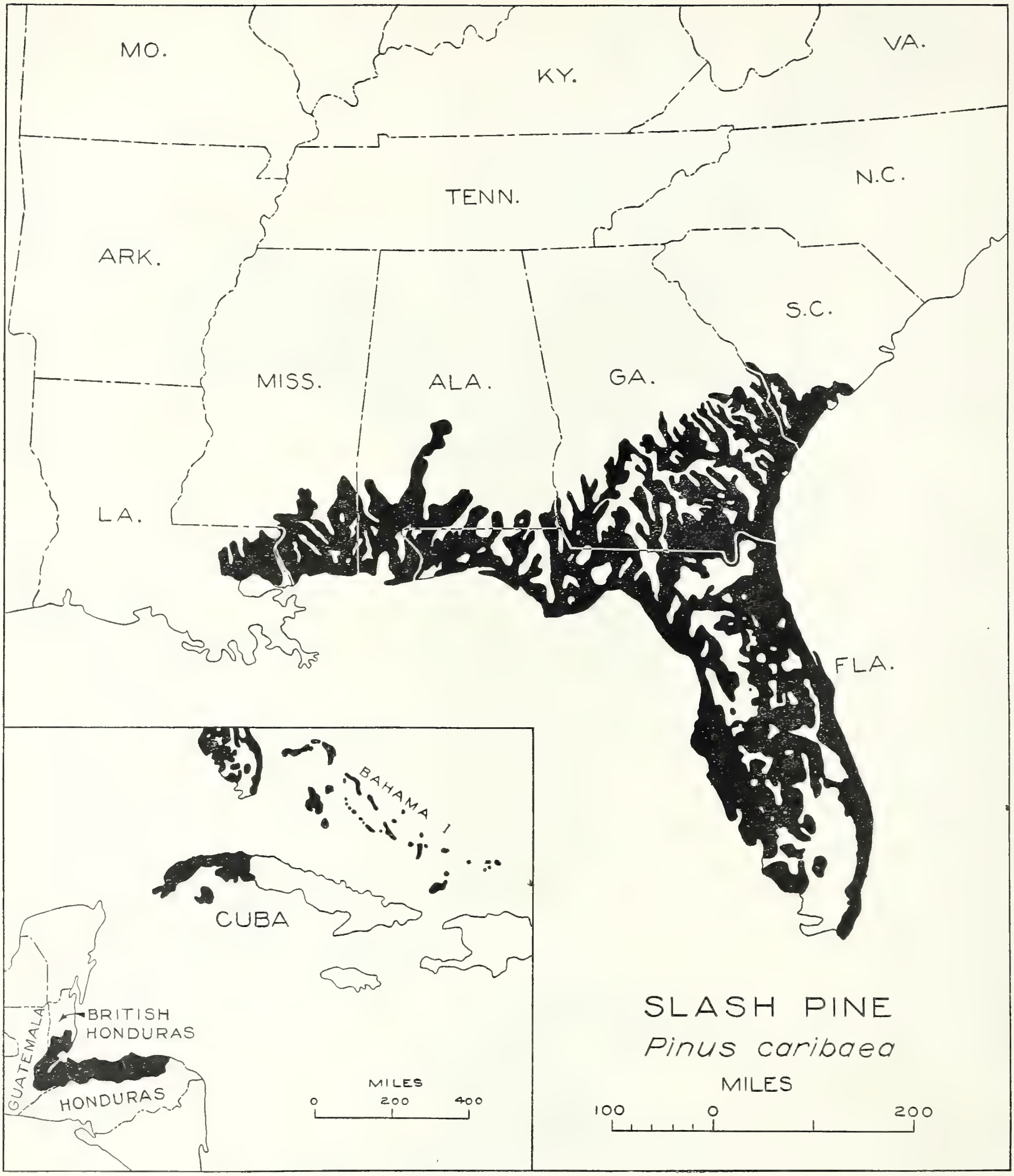
Map 24



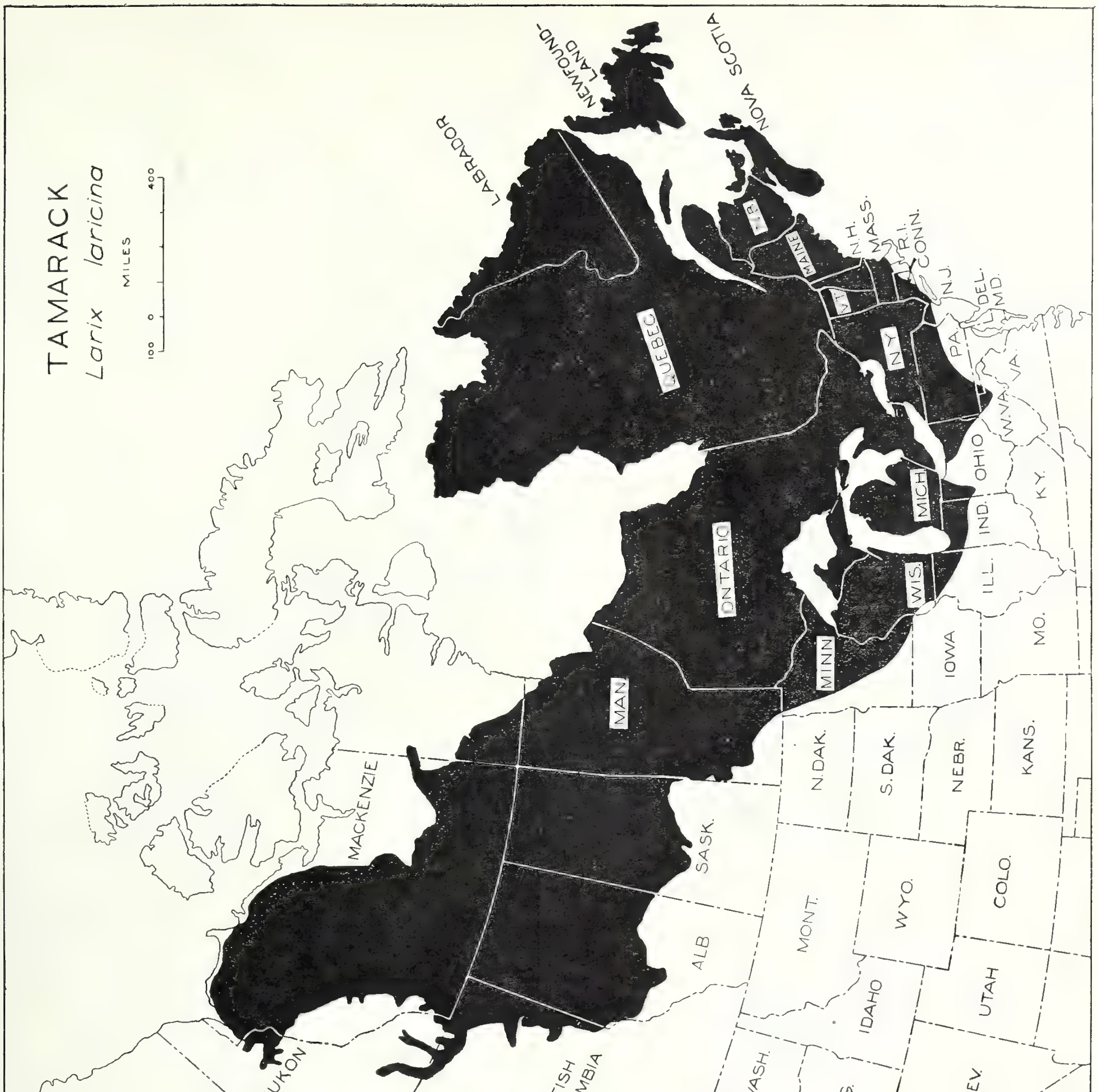
Map 25

PINUS PALUSTRIS MILLER

LONGLEAF PINE


MO.
KY.
VA.
TENN.
N.C.
ARK.
S.C.
MISS.
ALA.
GA.
LA.
FLA.
BAHAMA I.
CUBA
BRITISH HONDURAS
GUATEMALA
HONDURAS
MILES
0
200
400
SLASH PINE
Pinus caribaea
MILES
100
0
200

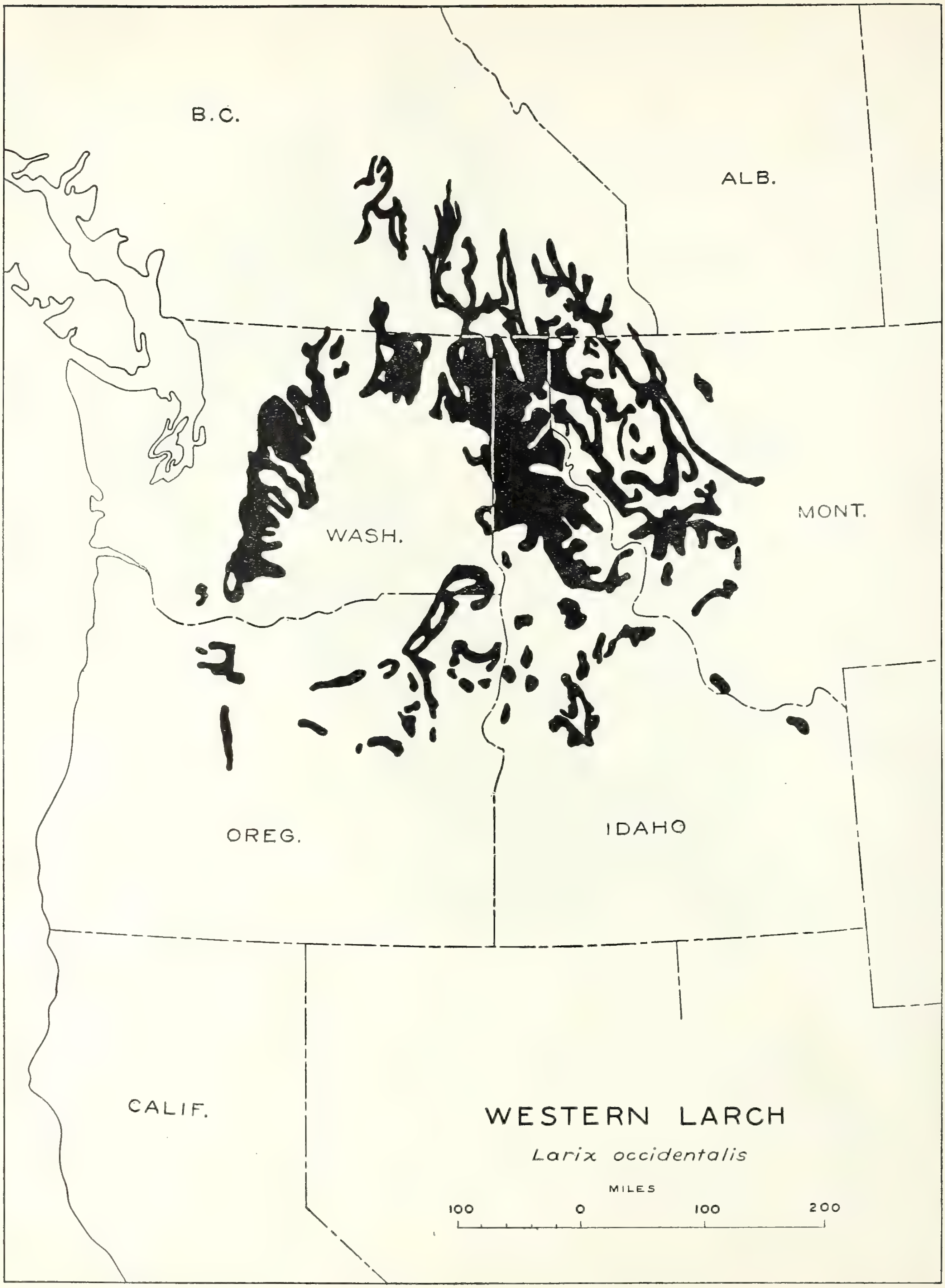
Map 26



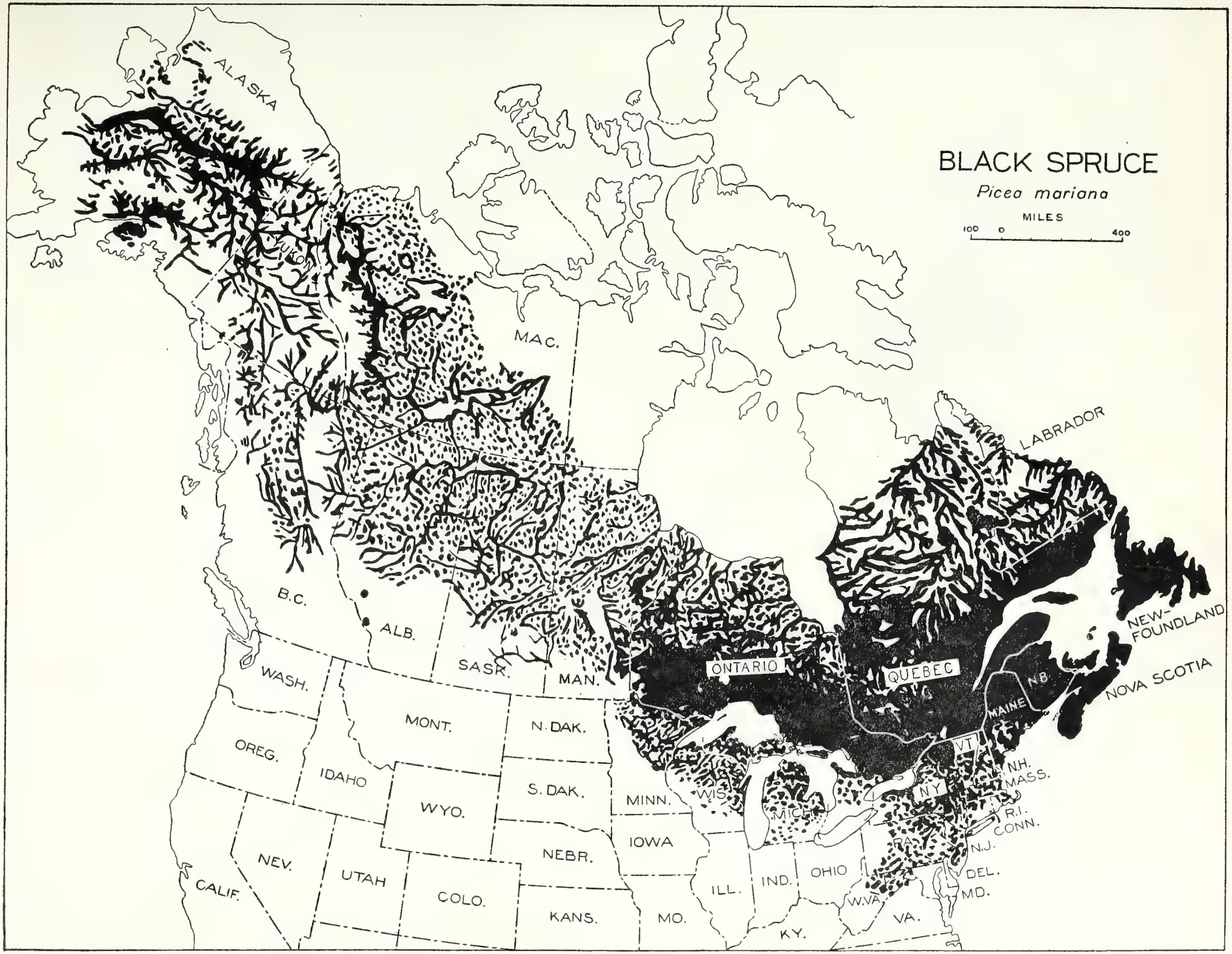
LARIX LARICINA (DU ROI) KOCH

Map 27

TAMARACK

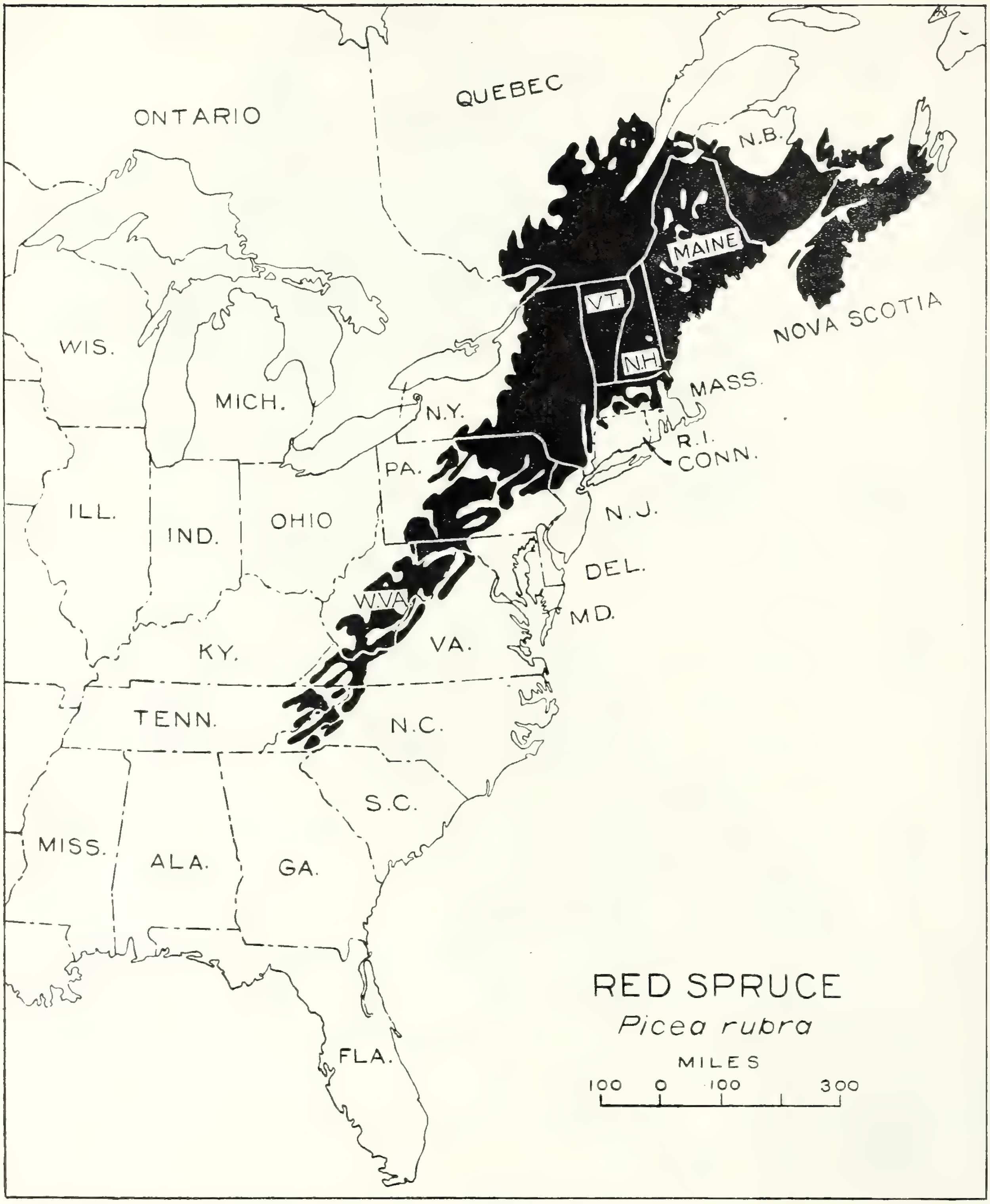

B.C.
ALB.
WASH.
MONT.
OREG.
IDAHO
CALIF.
WESTERN LARCH
Larix occidentalis
MILES
100
0
100
200

Map 28

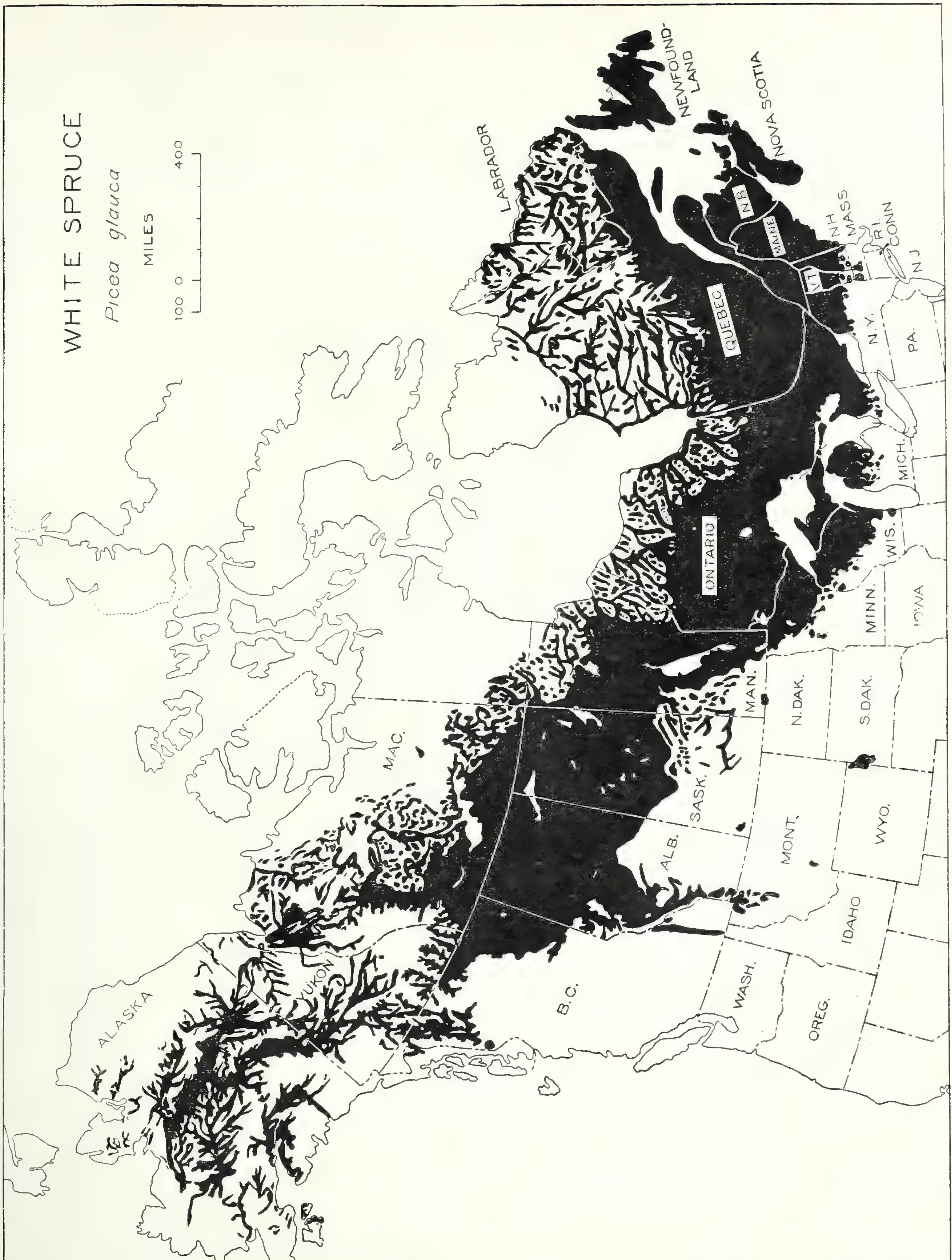


MAP 29

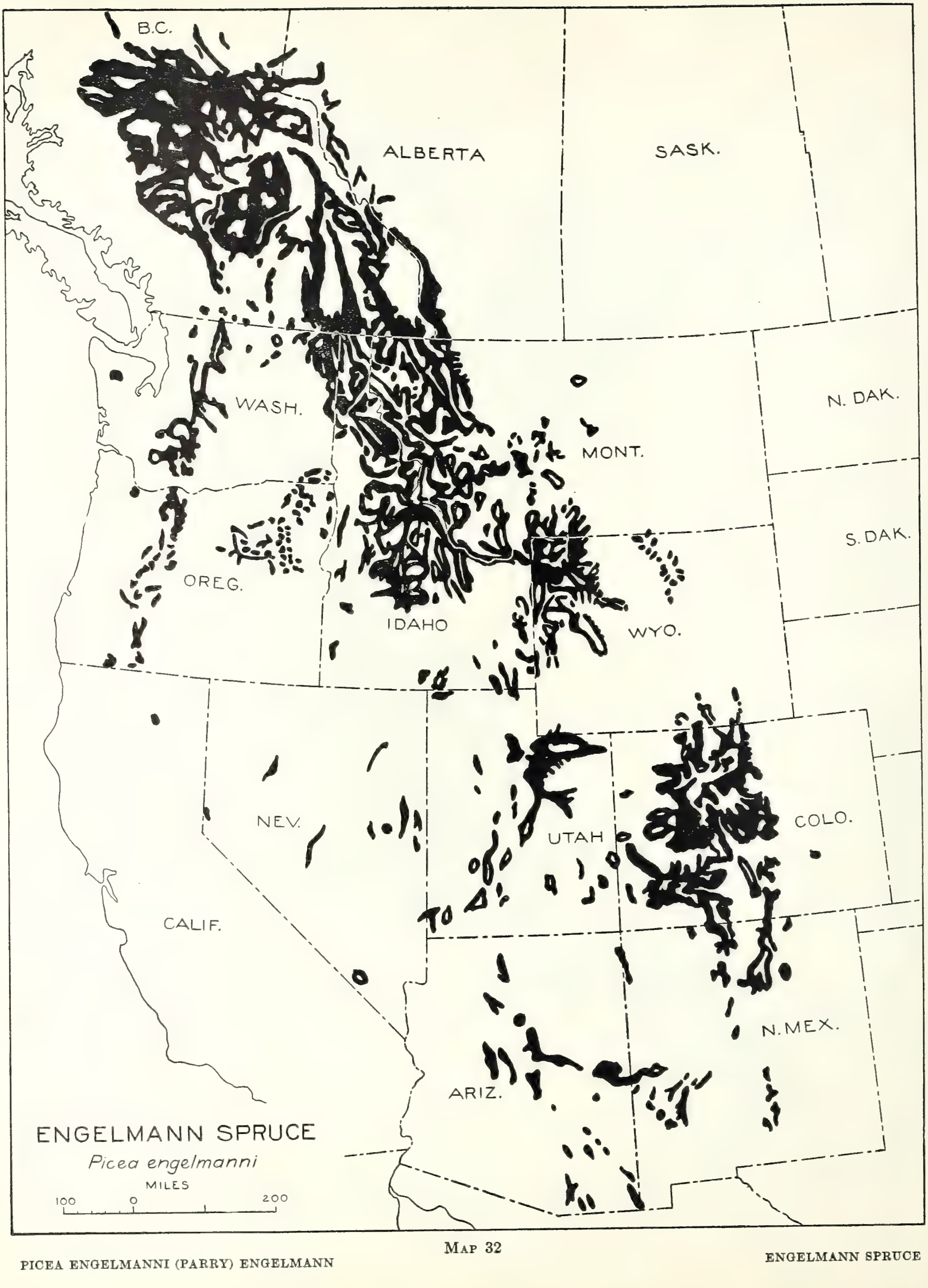
PICEA MARIANA (MILLER) BRITTON, STERNS, AND POGGENBERG — BLACK SPRUCE


ONTARIO
QUEBEC
N.B.
MAINE
NOVA SCOTIA
VT.
N.H.
MASS.
R.I.
CONN.
N.Y.
PA.
N.J.
DEL.
MD.
W.VA.
VA.
WIS.
MICH.
ILL.
IND.
OHIO
KY.
TENN.
N.C.
S.C.
MISS.
ALA.
GA.
FLA.
RED SPRUCE
Picea rubra
MILES
100 0 100 300

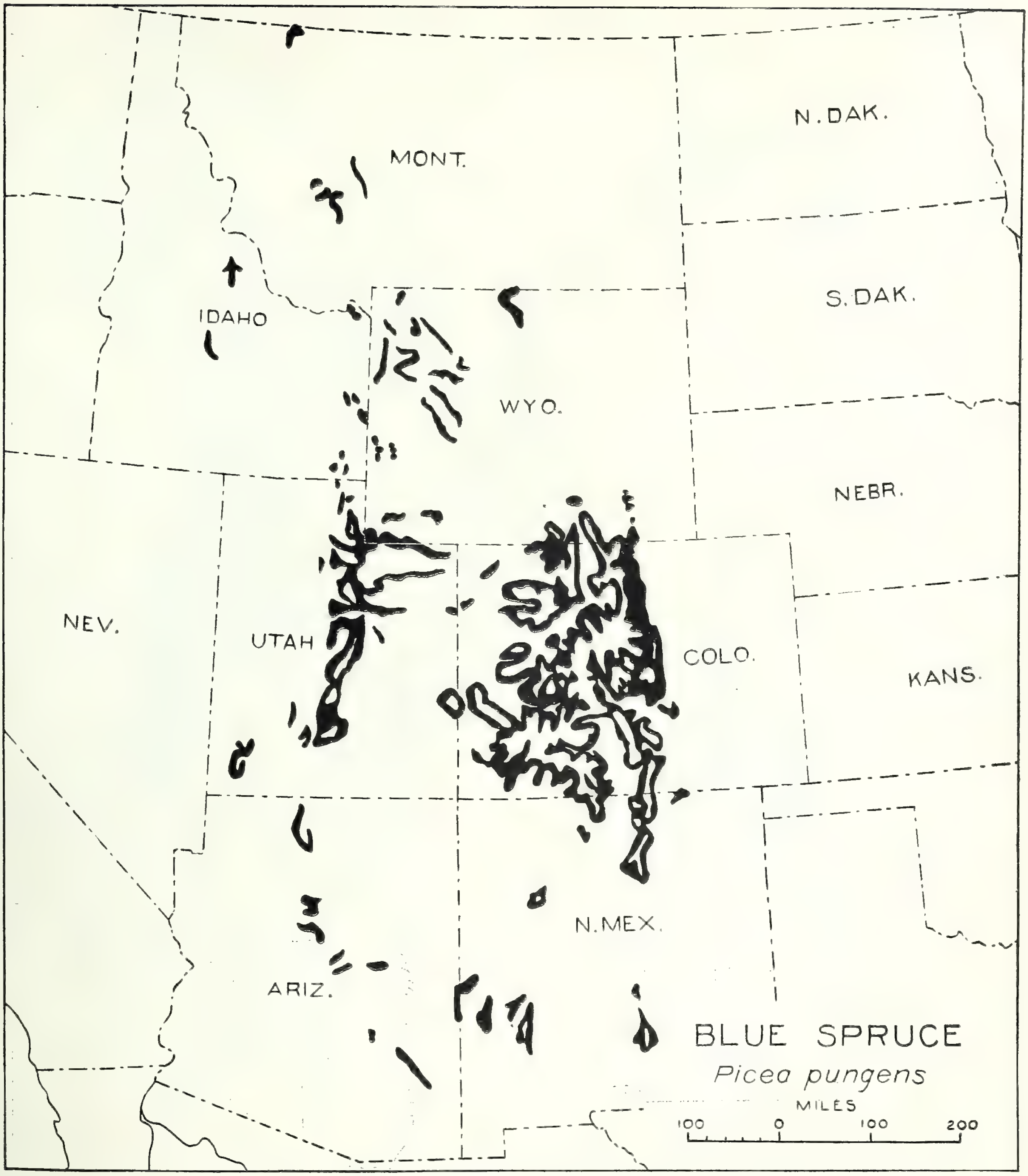
MAP 30


WHITE SPRUCE
Picea glauca
MILES
100 0
400
LABRADOR
NEWFOUND-LAND
NOVA SCOTIA
N.B.
MAINE
N.H.
MASS
R.I.
CONN
VT.
N.J.
N.Y.
PA.
QUEBEC
ONTARIO
MICH.
WIS.
MINN.
IOWA
N. DAK.
S. DAK.
MAN.
SASK.
MAC.
ALB.
MONT.
WYO.
IDAHO
WASH.
OREG.
B.C.
YUKON
ALASKA

MAP 31


B.C.
ALBERTA
SASK.
WASH.
MONT.
N. DAK.
S. DAK.
OREG.
IDAHO
WYO.
NEV.
UTAH
COLO.
CALIF.
ARIZ.
N. MEX.
ENGELMANN SPRUCE
Picea engelmanni
MILES
100
0
200

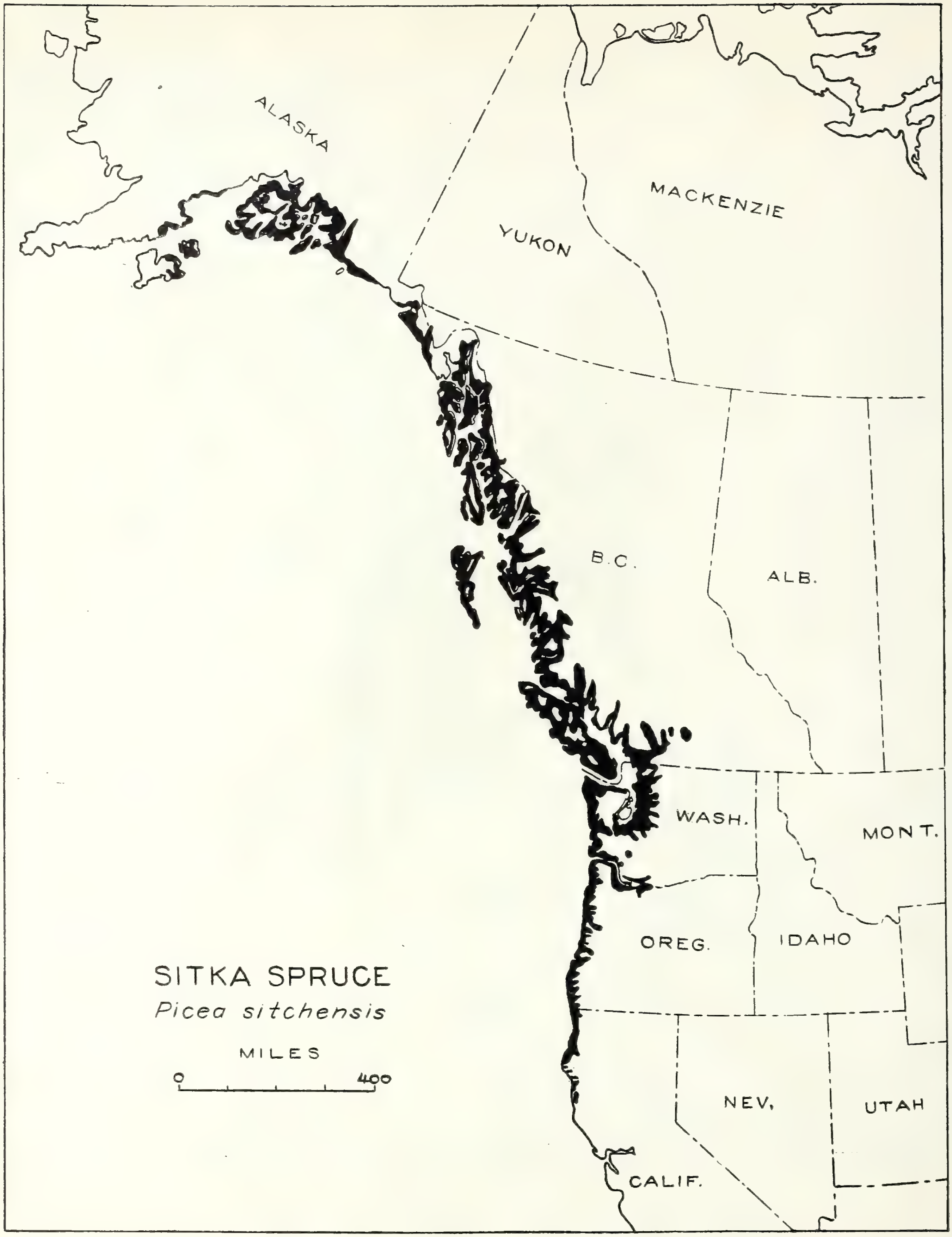
Map 32



Map 33

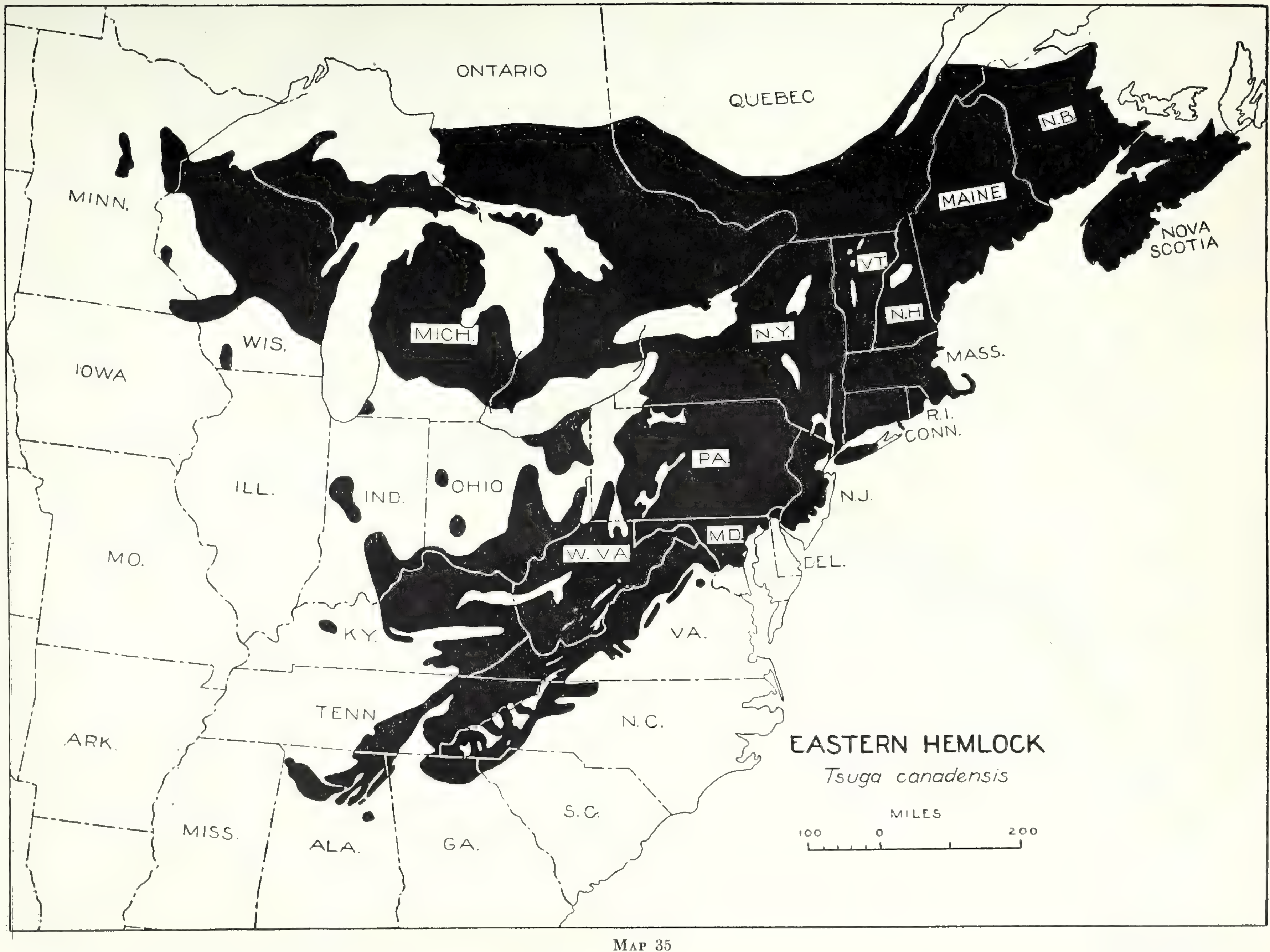
PICEA PUNGENS ENGELMANN

BLUE SPRUCE



MAP 34

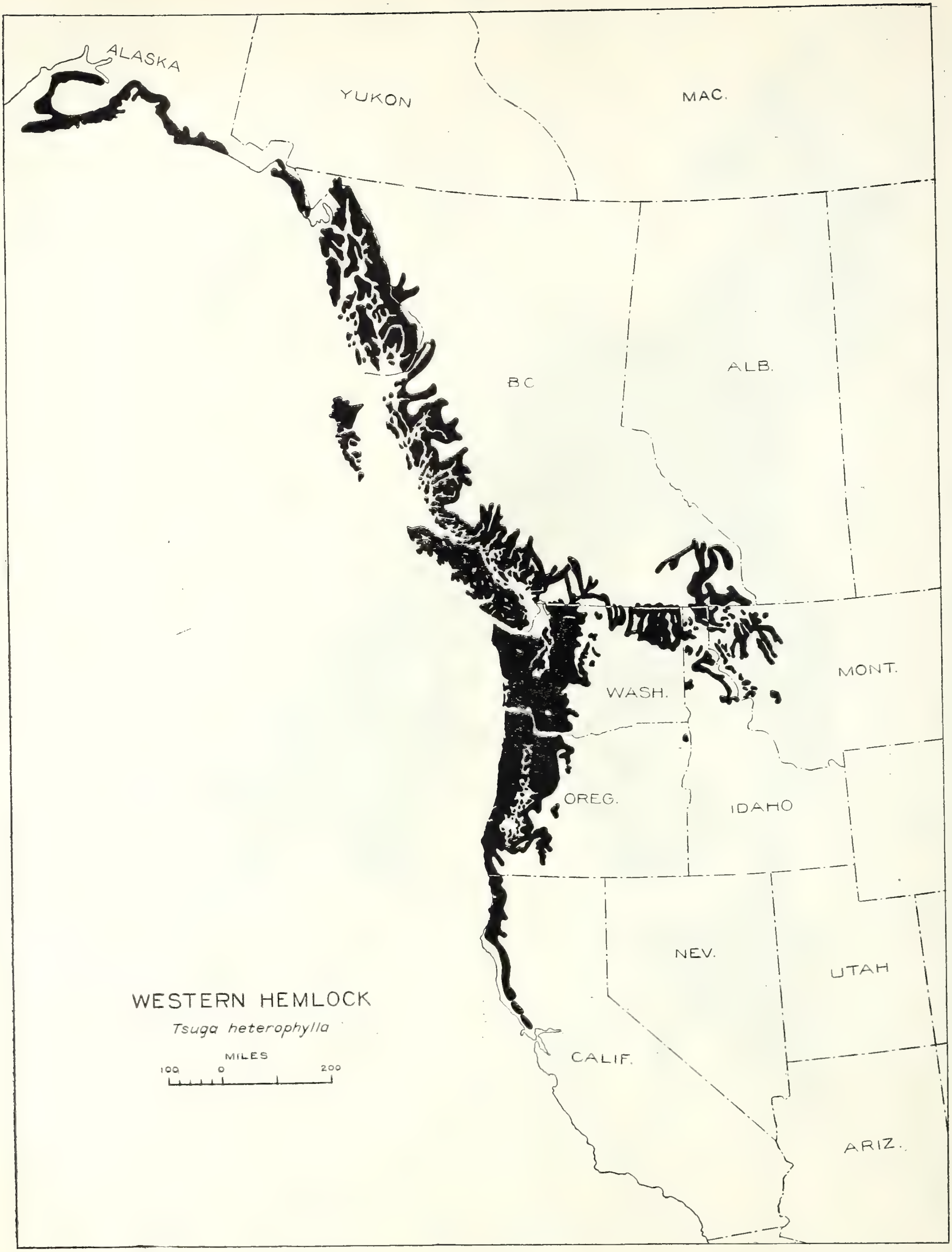
PICEA SITCHENSIS (BONGARD) CARRIÈRE SITKA SPRUCE



MAP 35

TSUGA CANADENSIS (LINNAEUS) CARRIÈRE

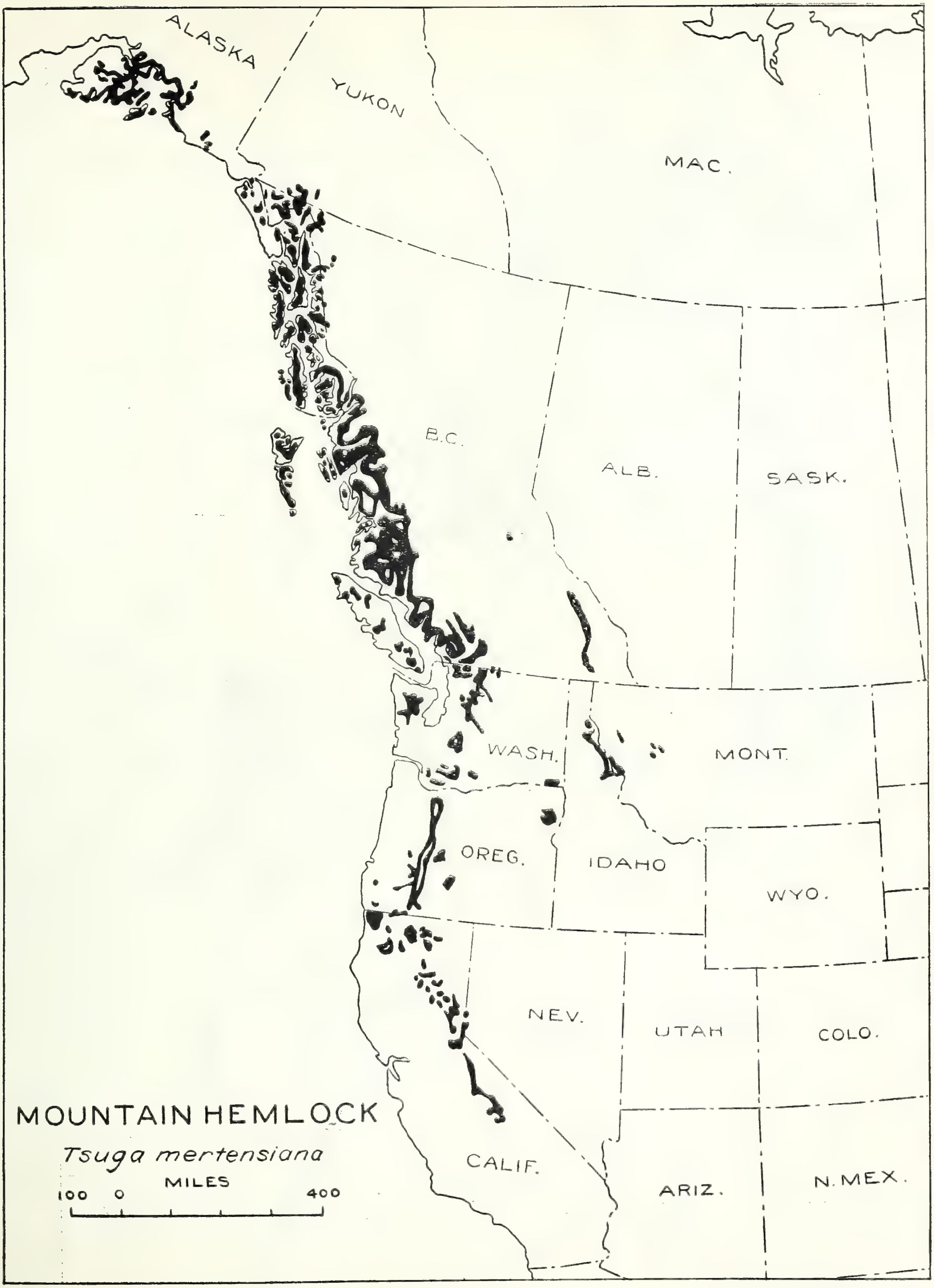
EASTERN HEMLOCK



Map 36

TSUGA HETEROPHYLLA (RAFINESQUE) SARGENT

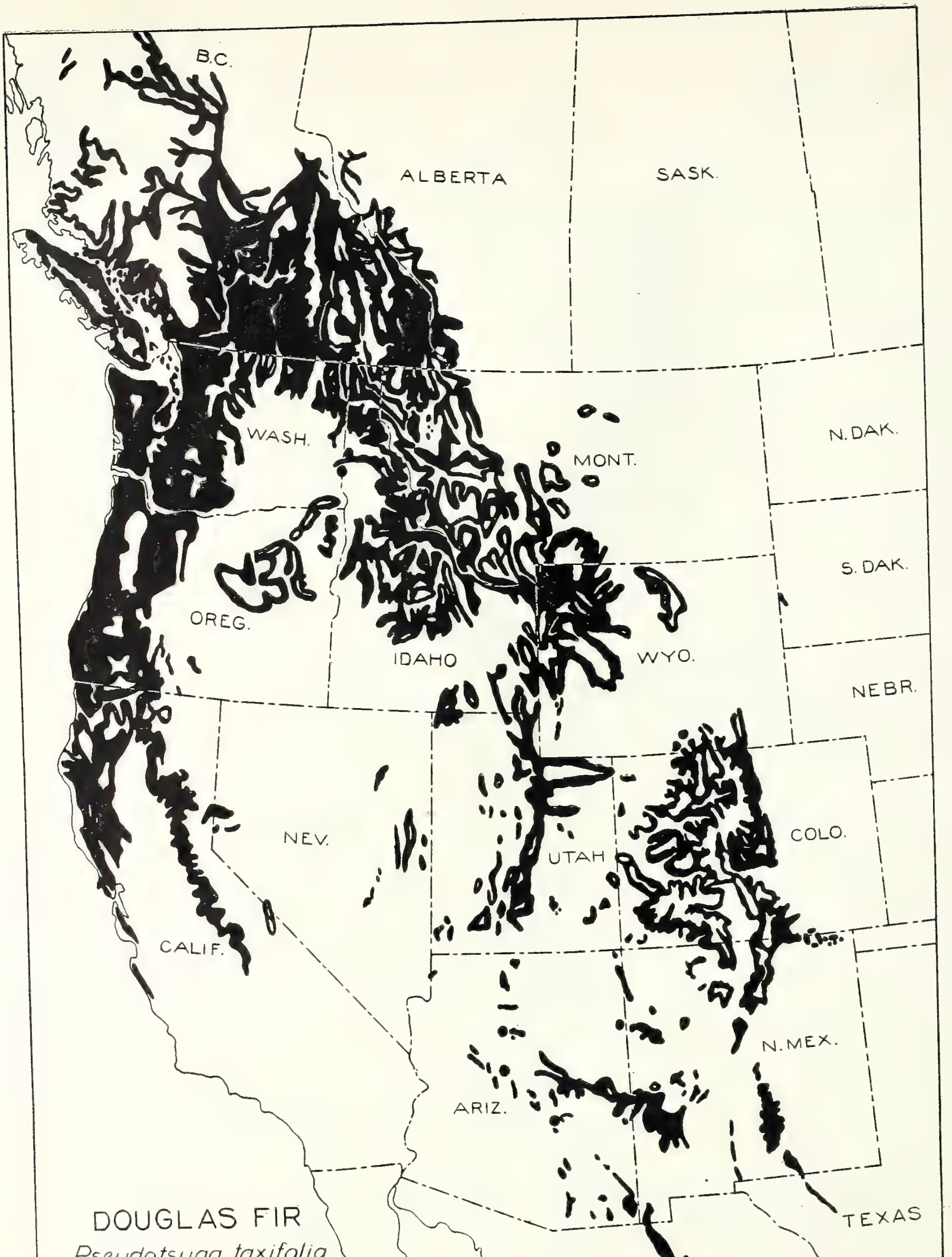
WESTERN HEMLOCK



Map 37

TSUGA MERTENSIANA (BONGARD) SARGENT

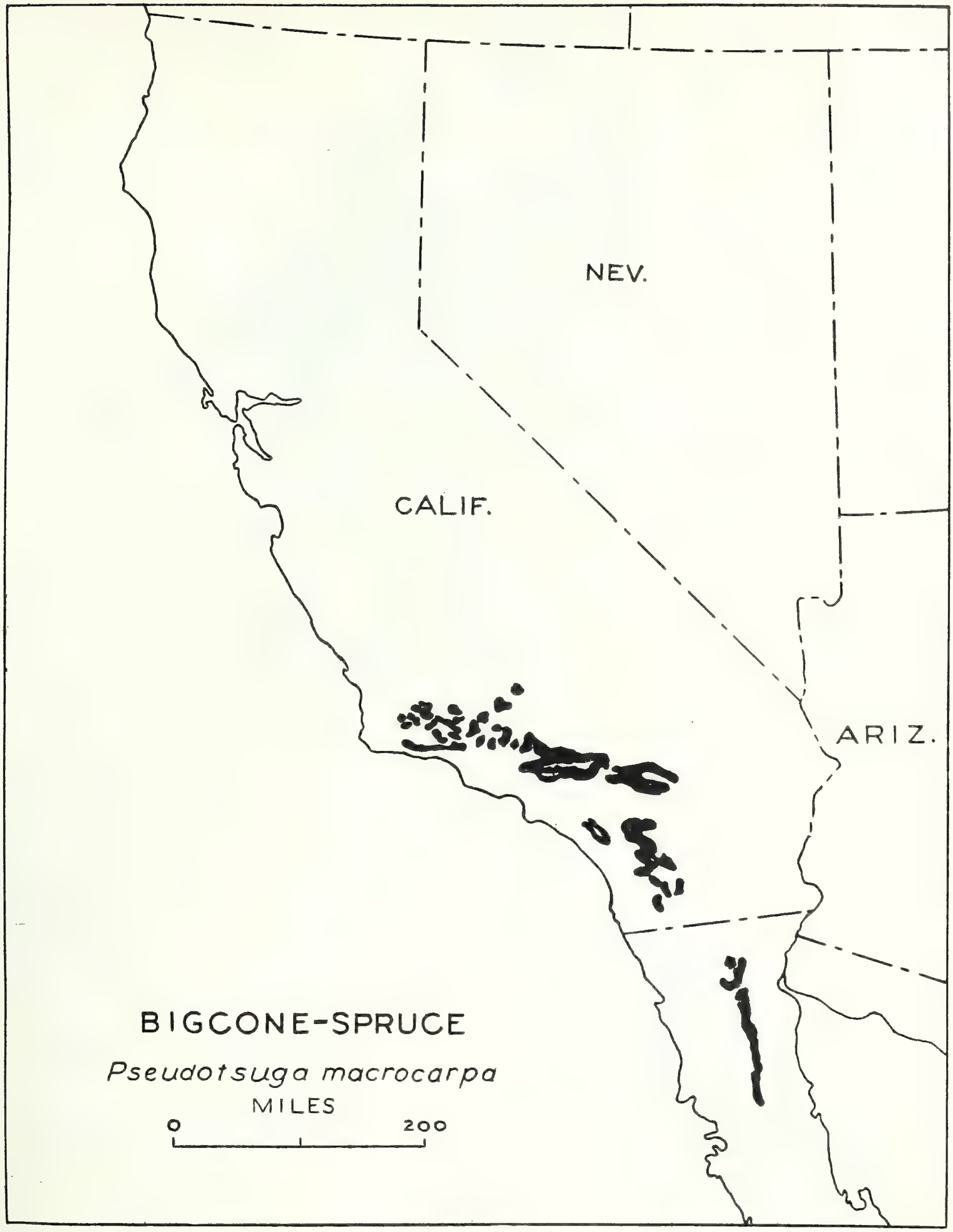
MOUNTAIN HEMLOCK



Map 38

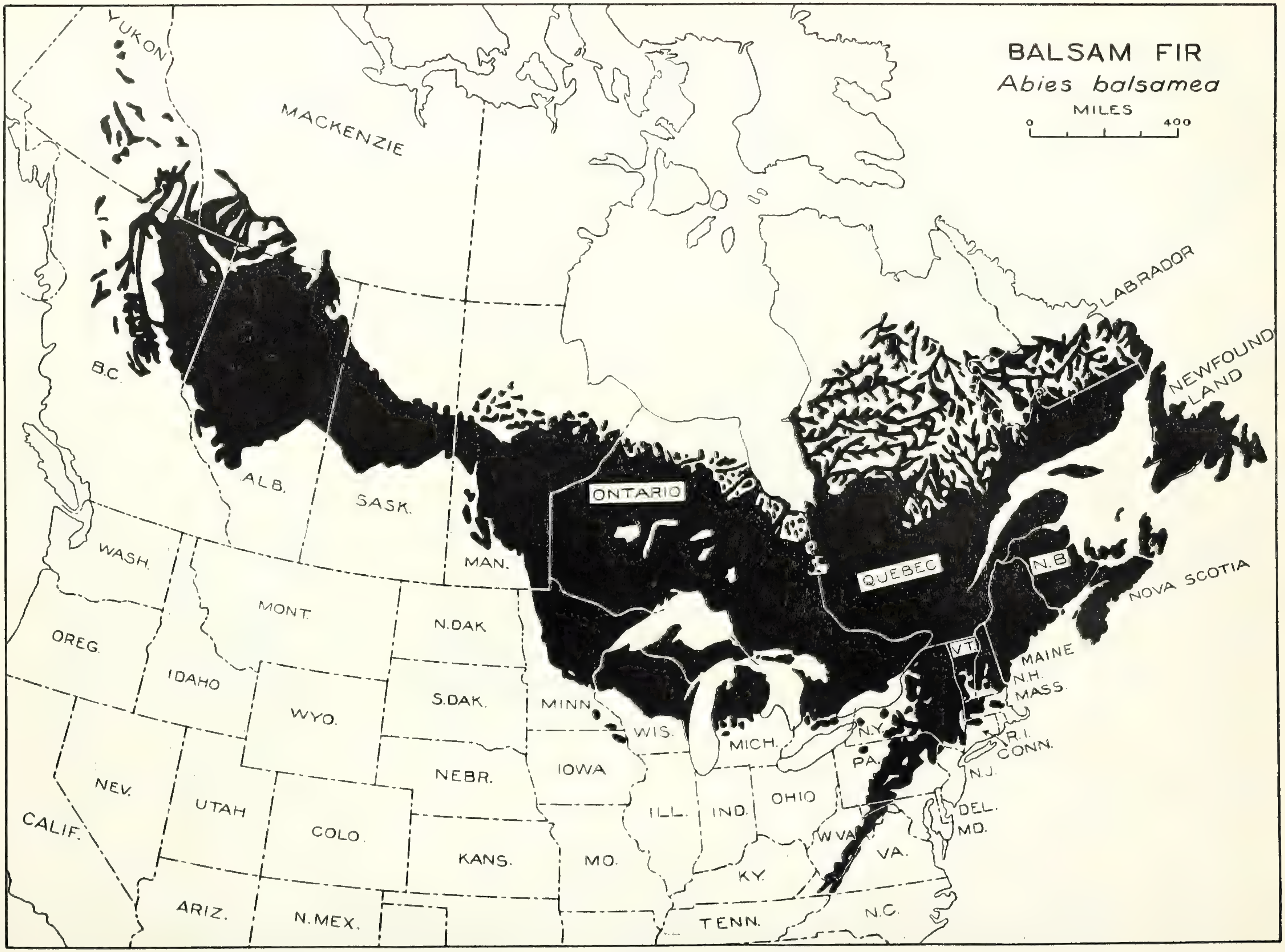
PSEUDOTSUGA TAXIFOLIA (LAMBERT) BRITTON

DOUGLAS FIR



MAP 39

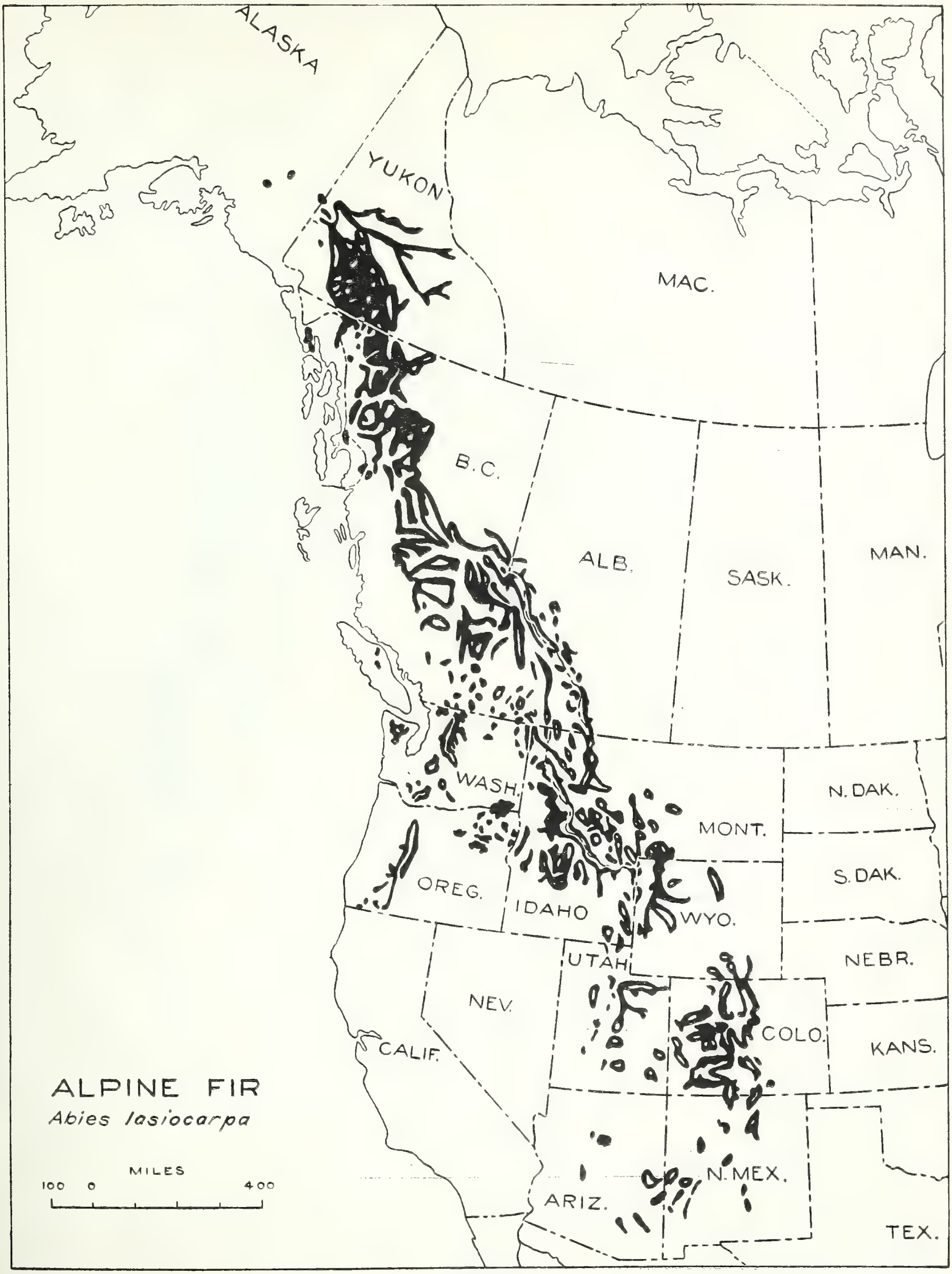
PSEUDOTSUGA MACROCARPA (TORREY) MAYR BIGCONE-SPRUCE



Map 40

ABIES BALSAMEA (LINNAEUS) MILLER

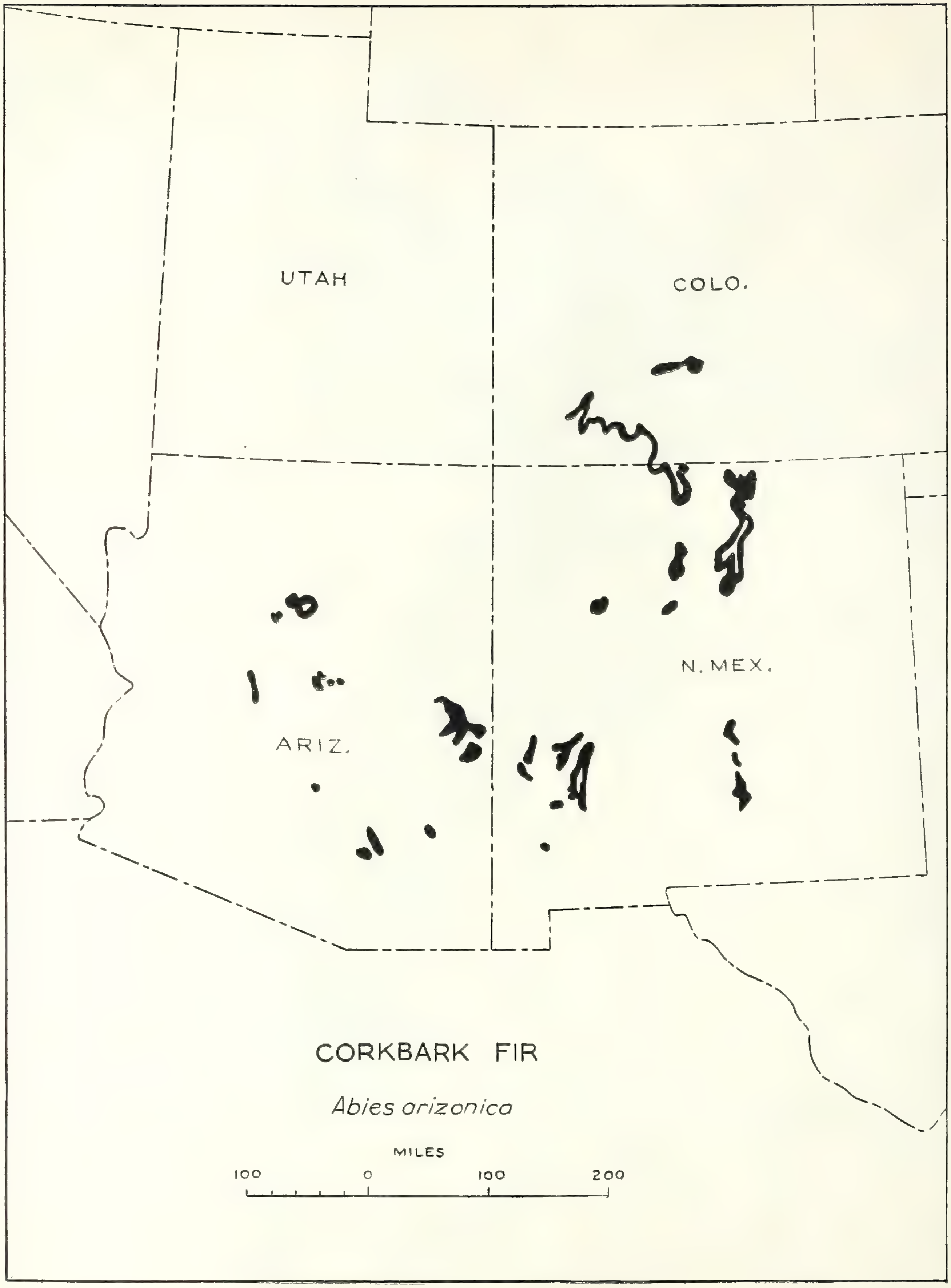
BALSAM FIR



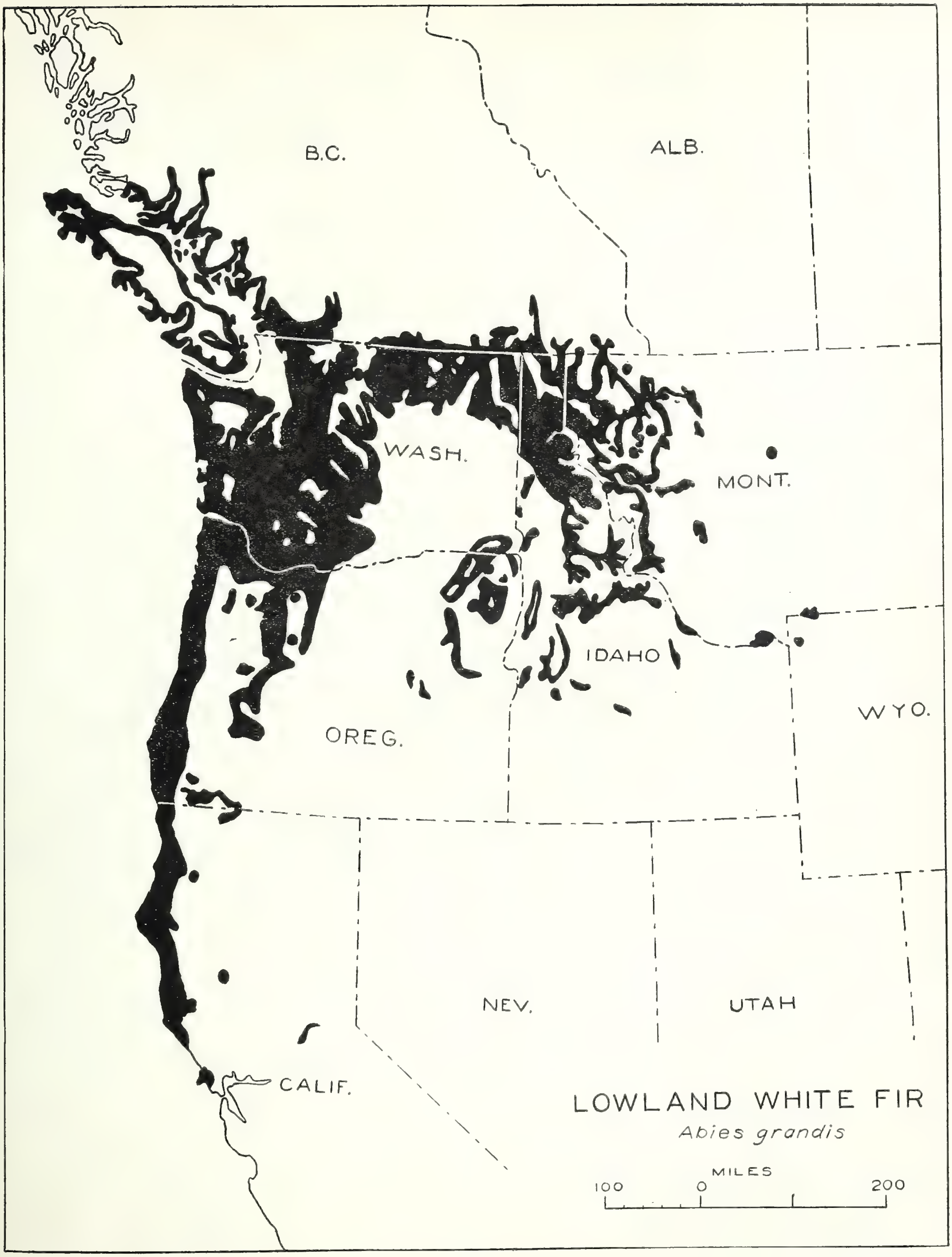
MAP 41

ABIES LASIOCARPA (HOOKER) NUTTALL

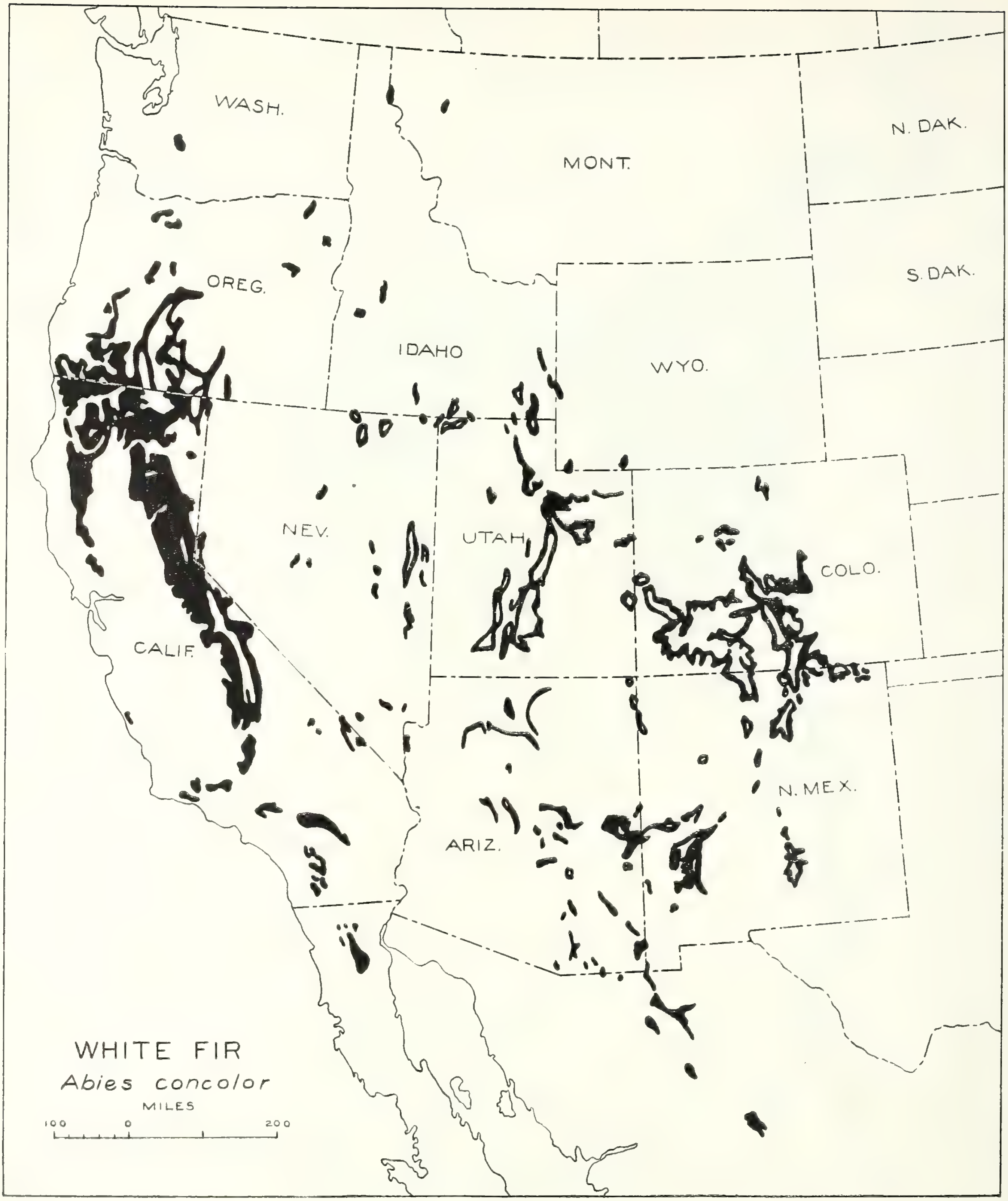
ALPINE FIR


UTAH
COLO.
ARIZ.
N. MEX.
CORKBARK FIR
Abies arizonica
MILES
100
0
100
200

Map 42

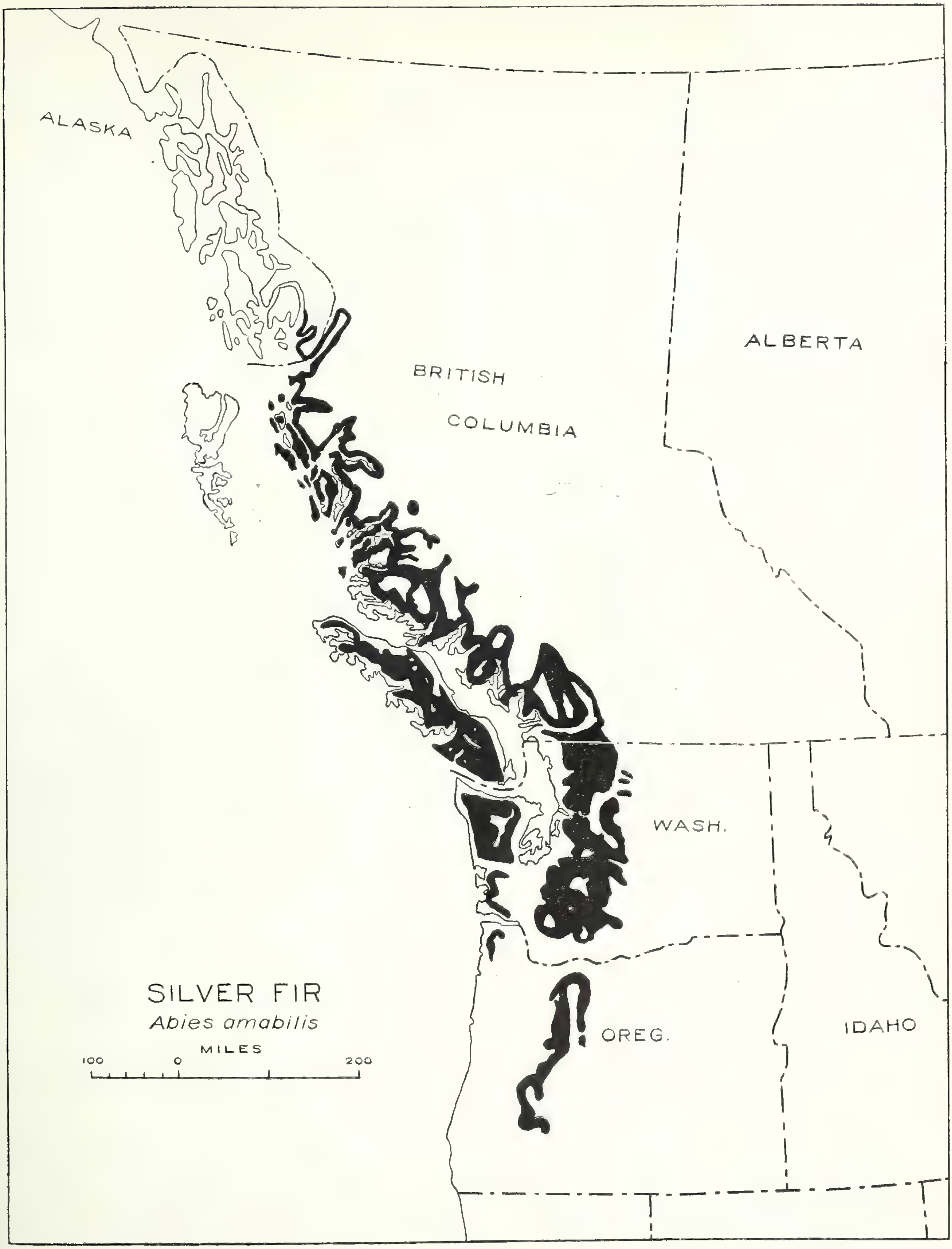

B.C.
ALB.
WASH.
MONT.
IDAHO
WYO.
OREG.
NEV.
UTAH
CALIF.
LOWLAND WHITE FIR
Abies grandis
MILES
100
0
200

Map 43



Map 44

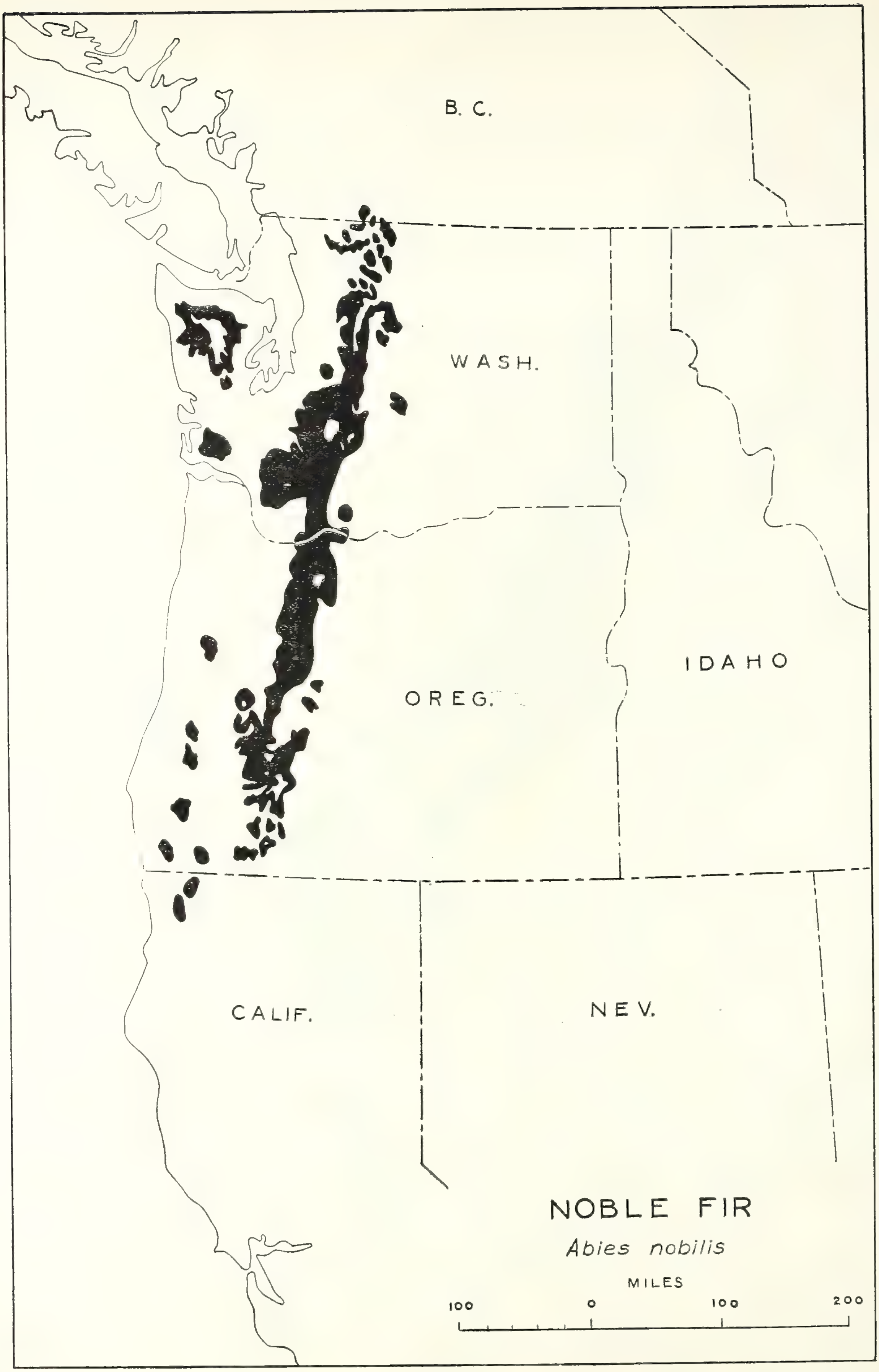
ABIES CONCOLOR LINDLEY WHITE FIR



Map 45

ABIES AMABILIS (DOUGLAS) FORBES

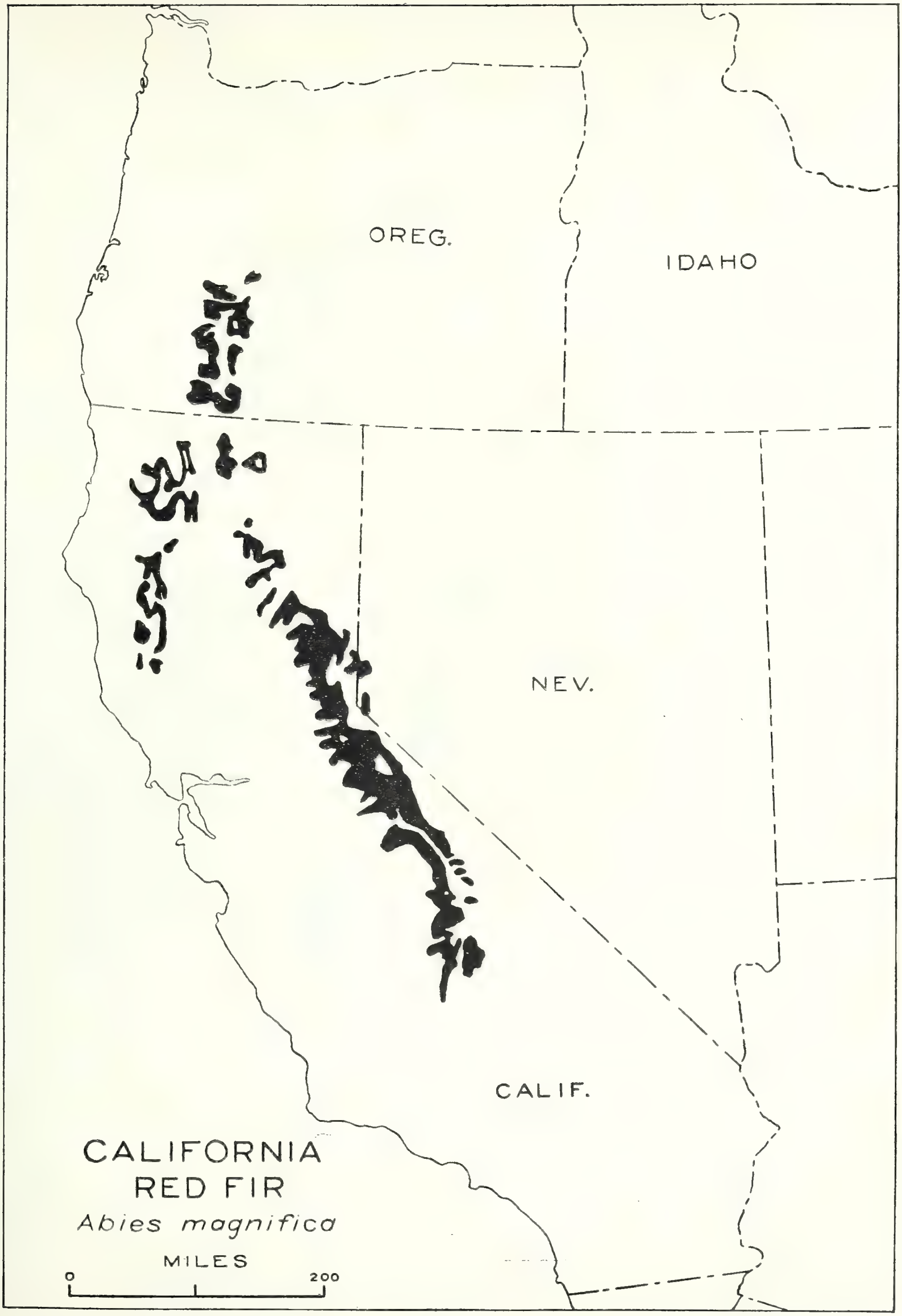
SILVER FIR



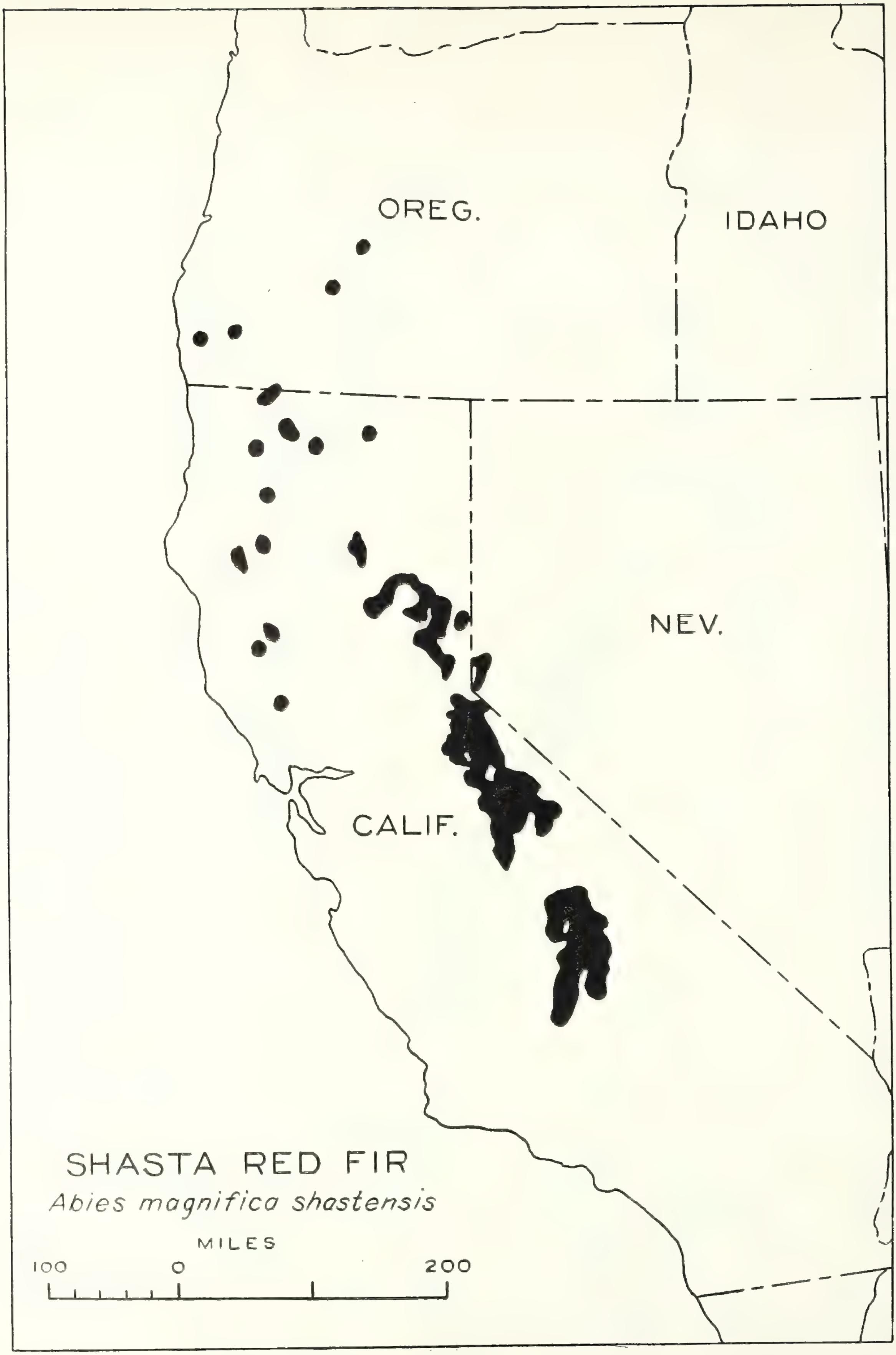
Map 46

ABIES NOBILIS LINDLEY

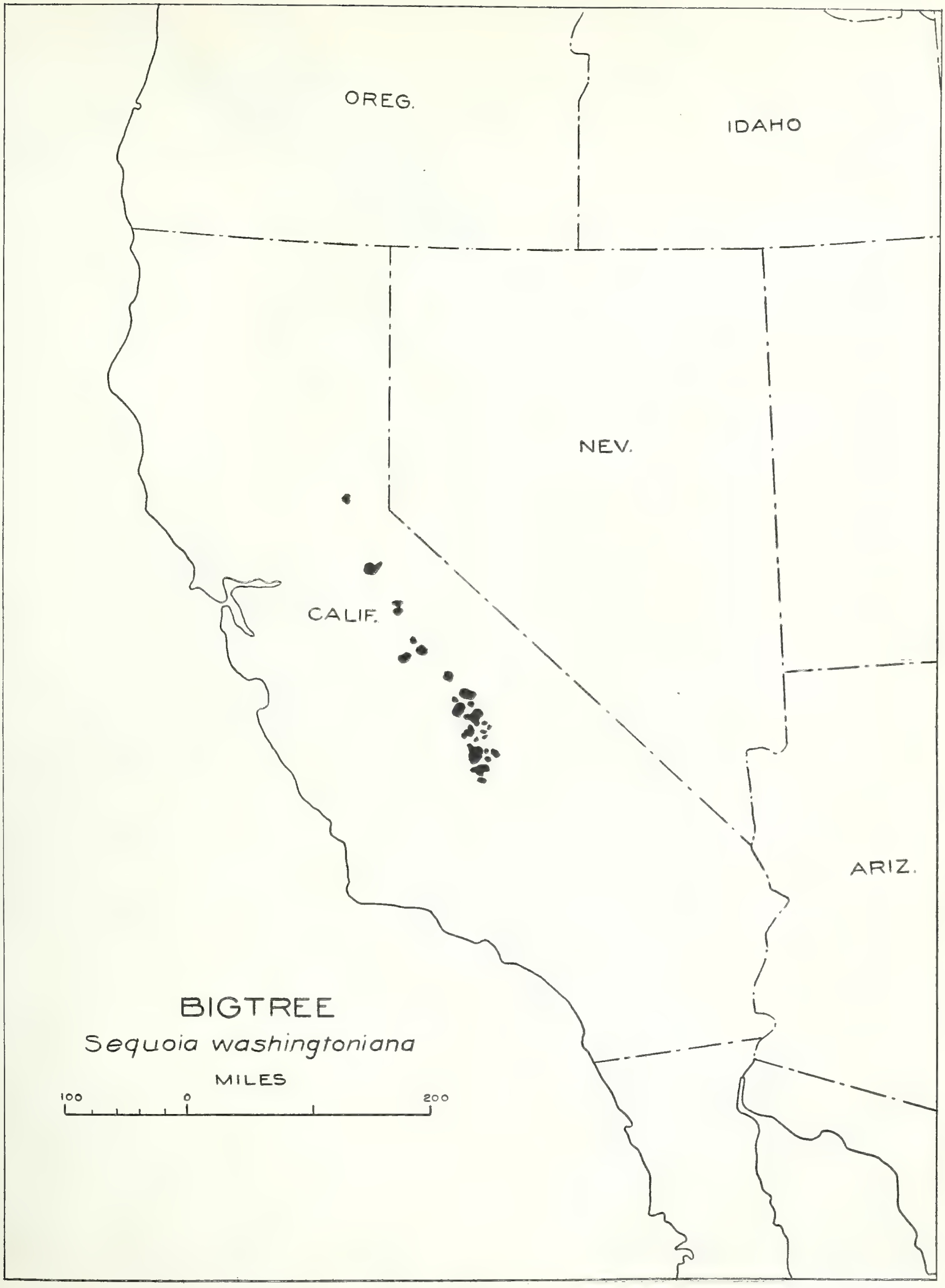
NOBLE FIR


OREG.
IDAHO
NEV.
CALIF.
CALIFORNIA
RED FIR
Abies magnifica
MILES
0
200

Map 47


OREG.
IDAHO
NEV.
CALIF.
SHASTA RED FIR
Abies magnifica shastensis
MILES
100
0
200

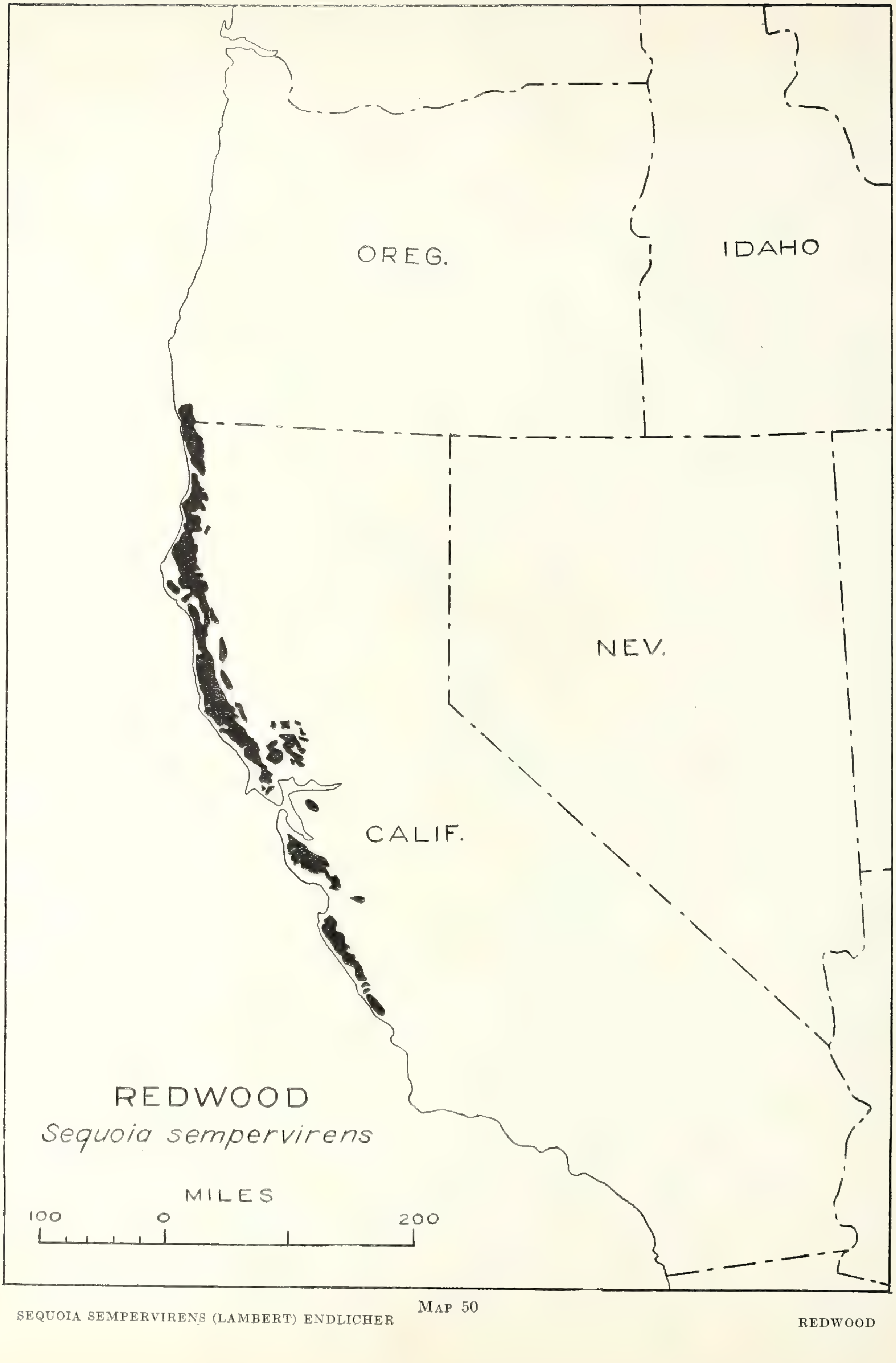
Map 48



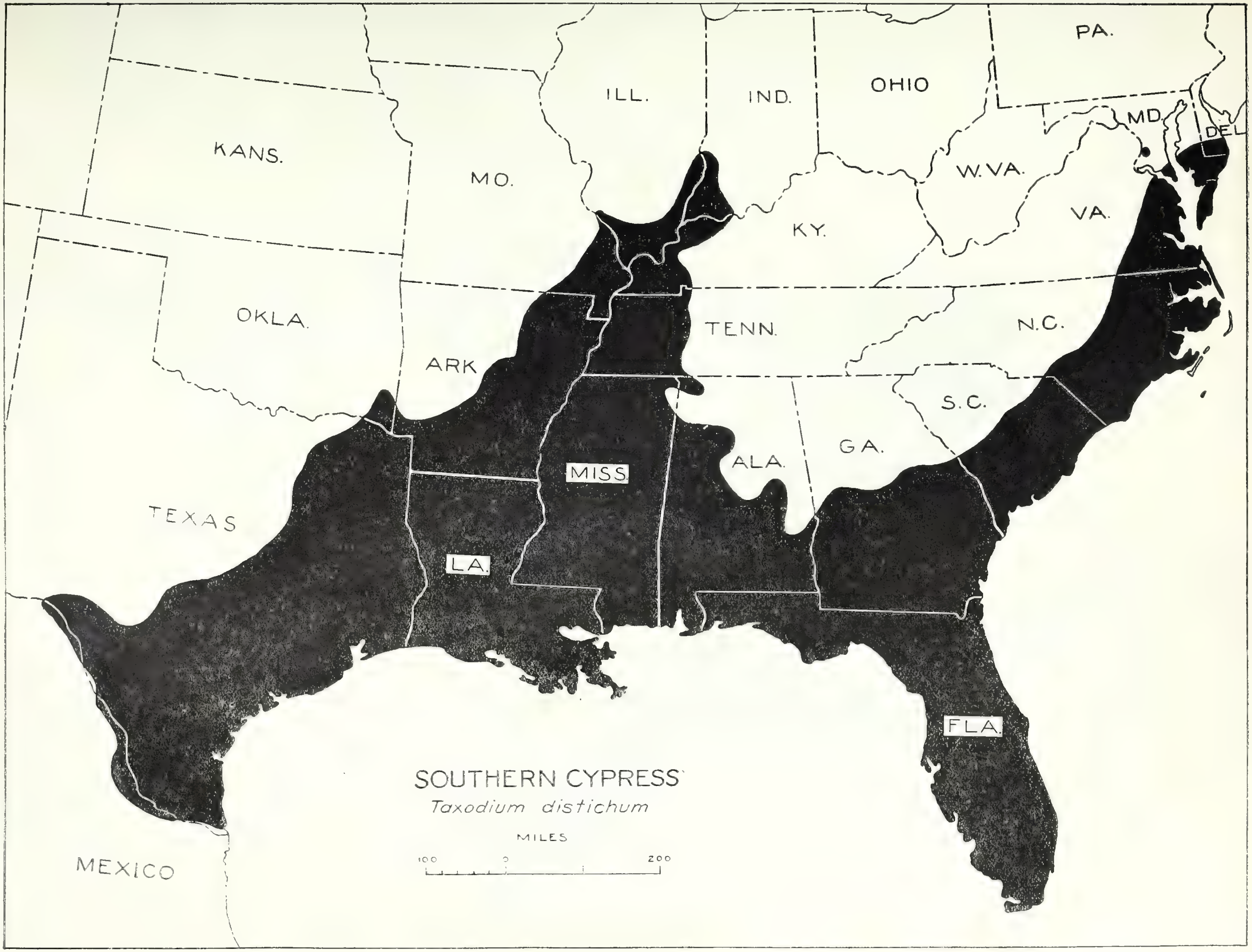
MAP 49

SEQUOIA WASHINGTONIANA (WINSLOW) SUDWORTH

BIGTREE


OREG.
IDAHO
NEV.
CALIF.
REDWOOD
Sequoia sempervirens
MILES
100
0
200

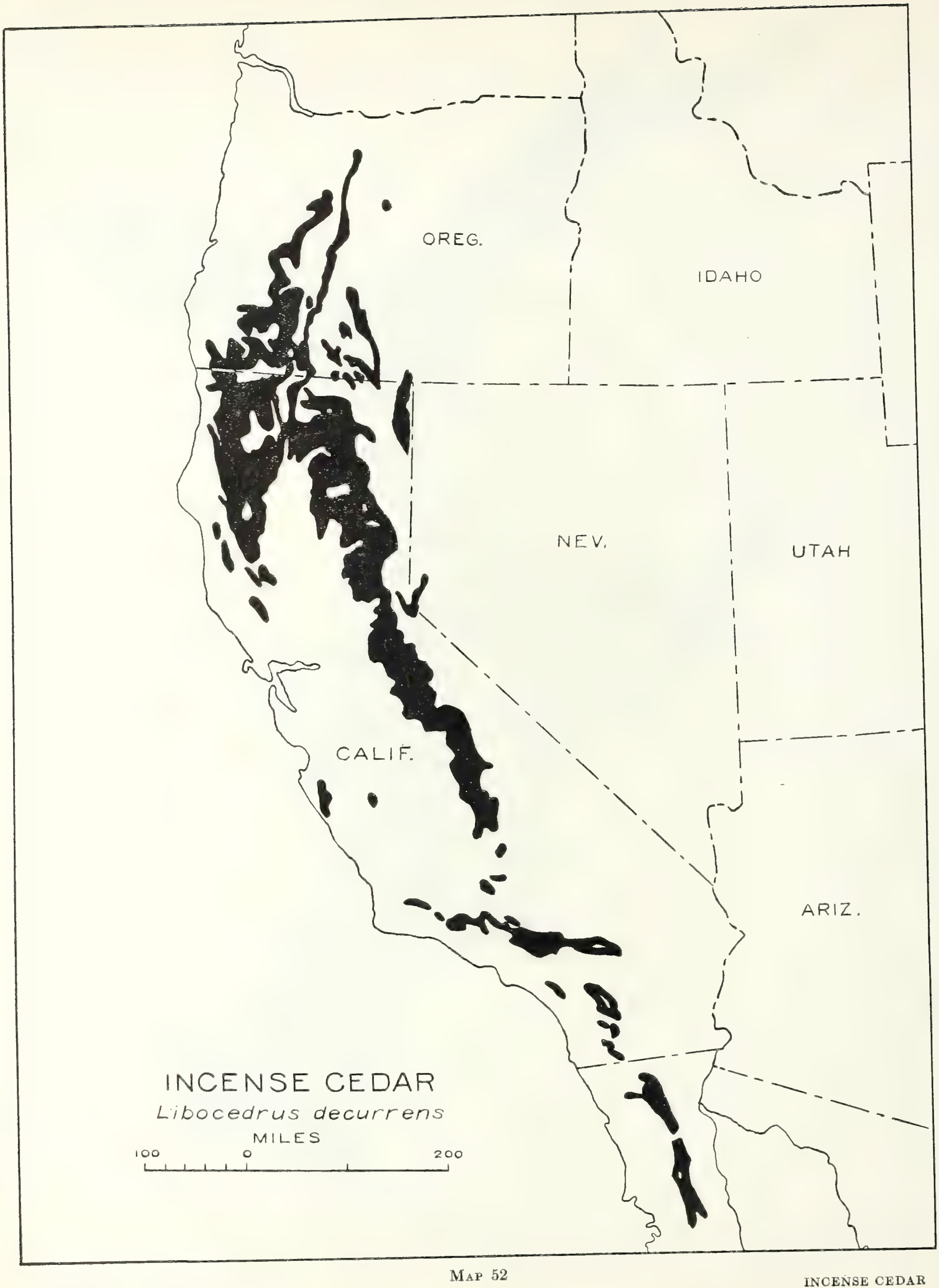
Map 50



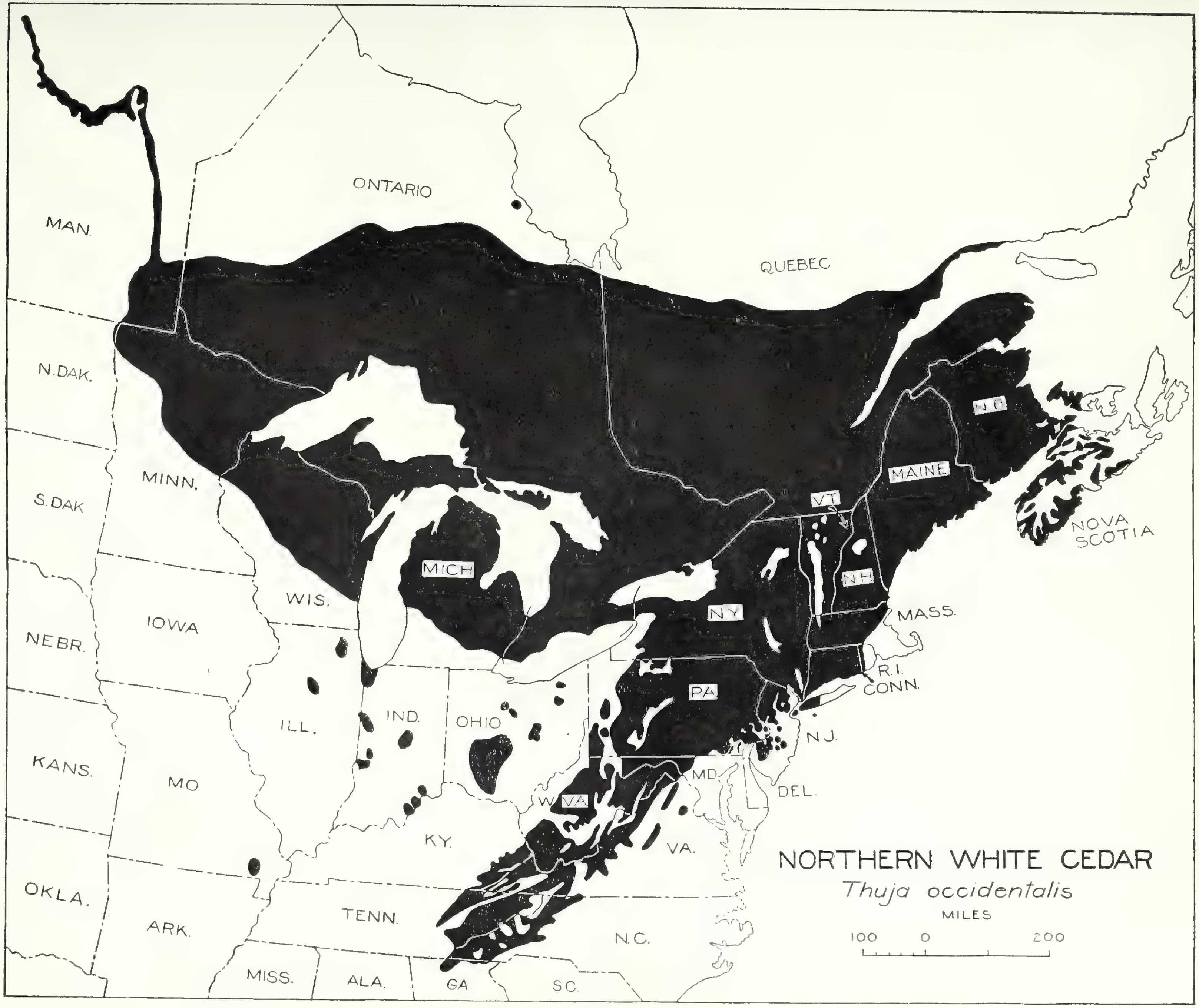
Map 51

TAXODIUM DISTICHUM (LINNAEUS) RICHARD

SOUTHERN CYPRESS


OREG.
IDAHO
NEV.
UTAH
CALIF.
ARIZ.
INCENSE CEDAR
Libocedrus decurrens
MILES
100
0
200

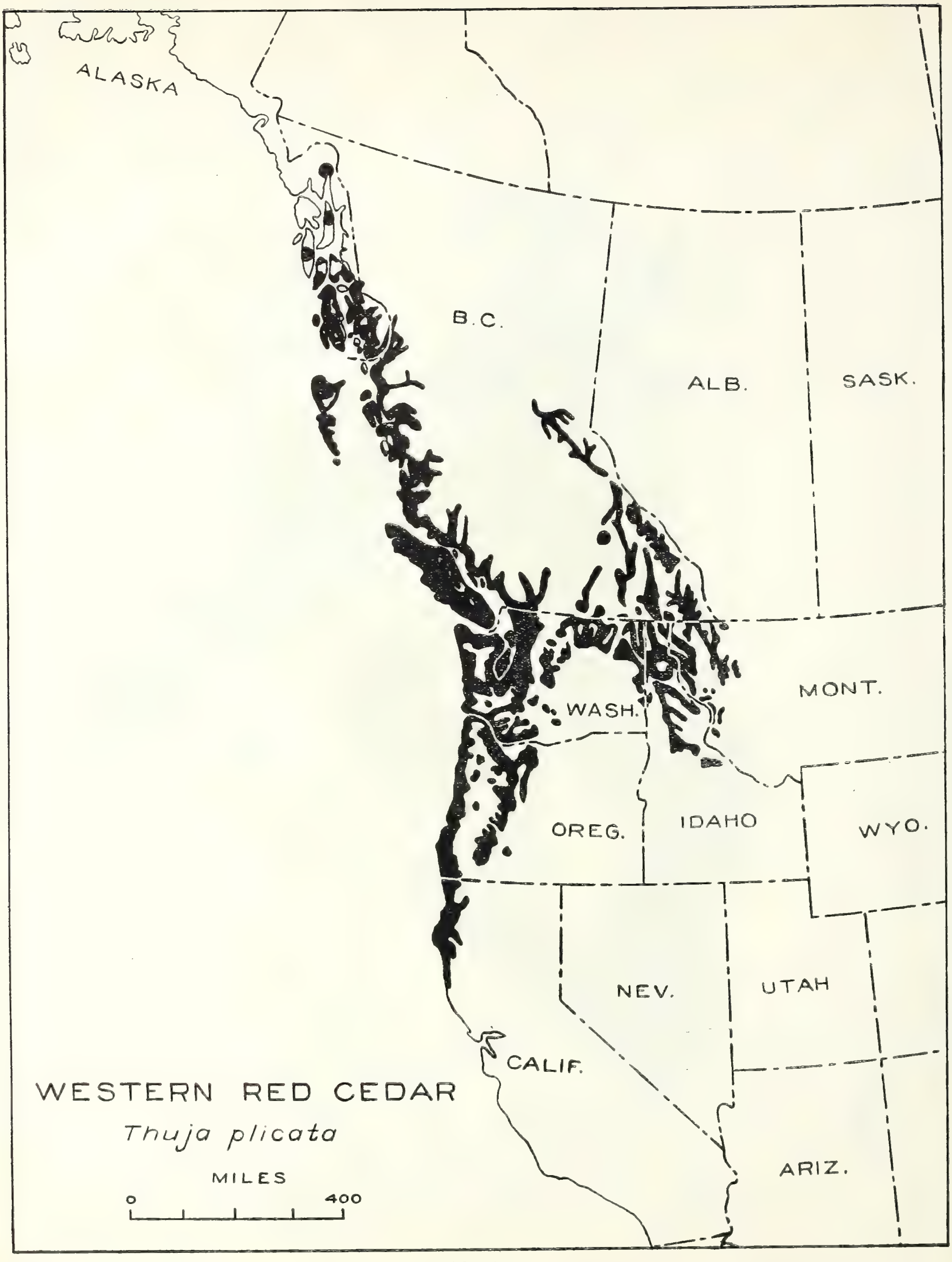
Map 52



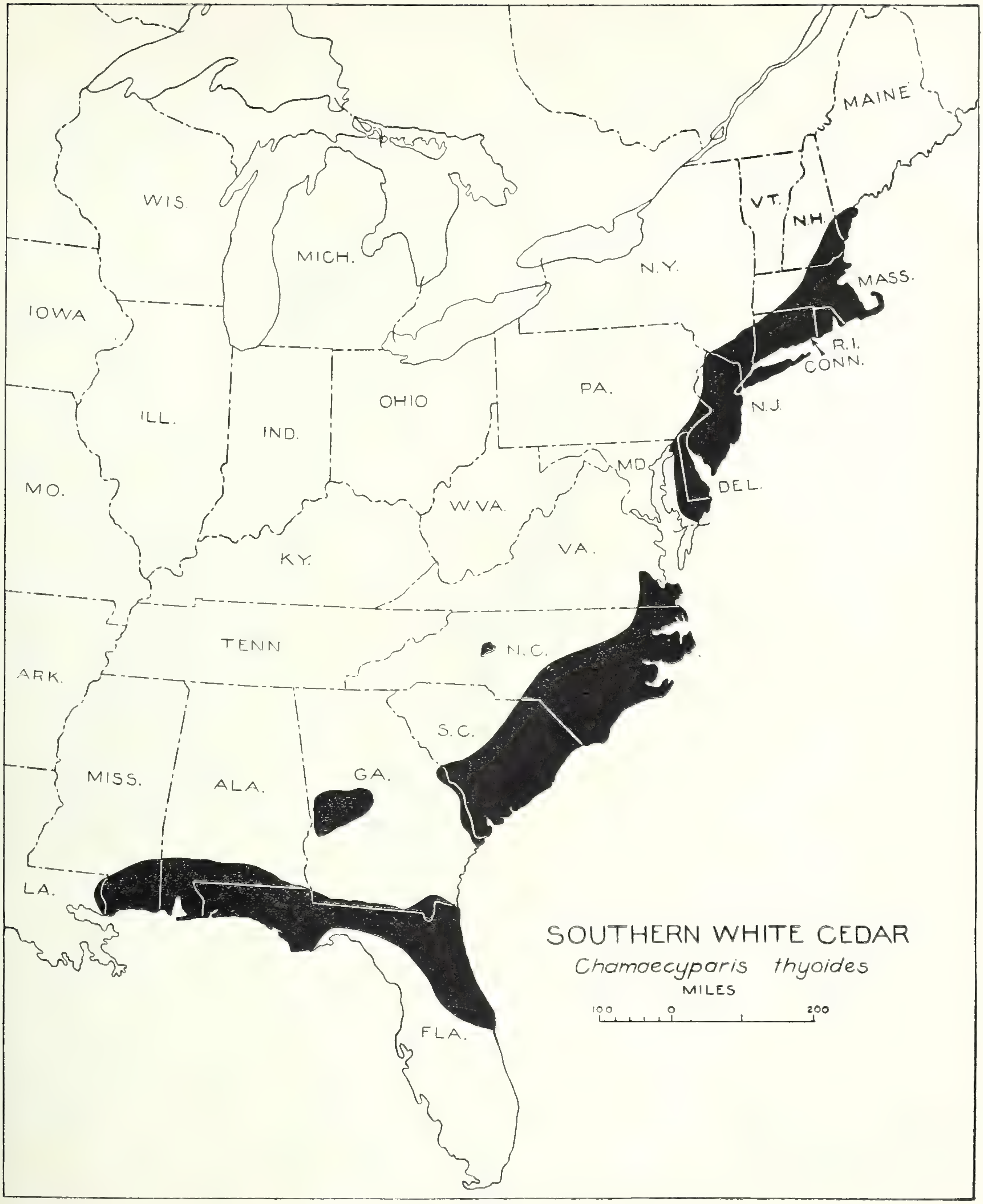
THUJA OCCIDENTALIS LINNAEUS

Map 53

NORTHERN WHITE CEDAR

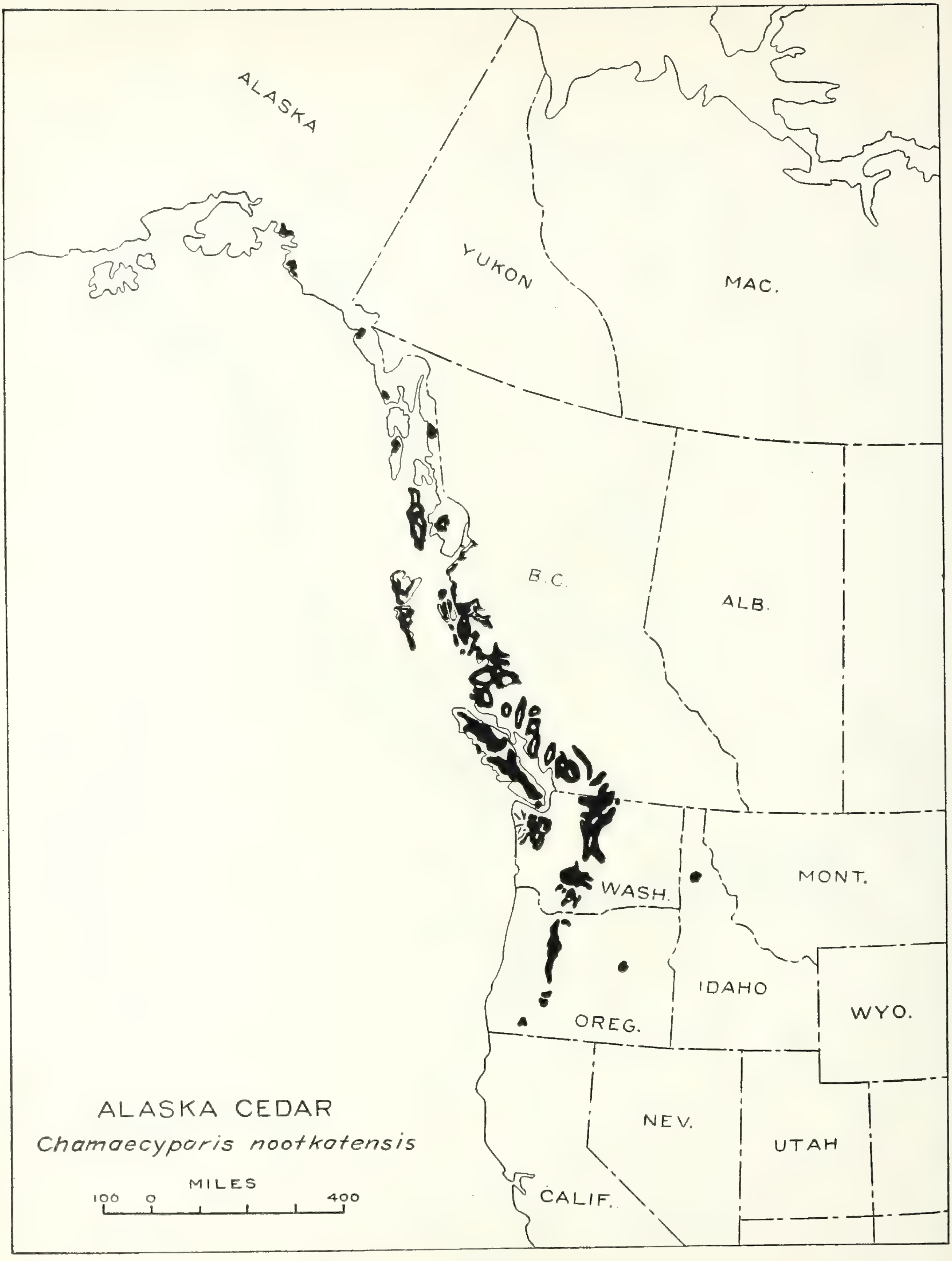

ALASKA
B.C.
ALB.
SASK.
WASH.
MONT.
OREG.
IDAHO
WYO.
NEV.
UTAH
CALIF.
ARIZ.
WESTERN RED CEDAR
Thuja plicata
MILES
0
400

Map 54



Map 55

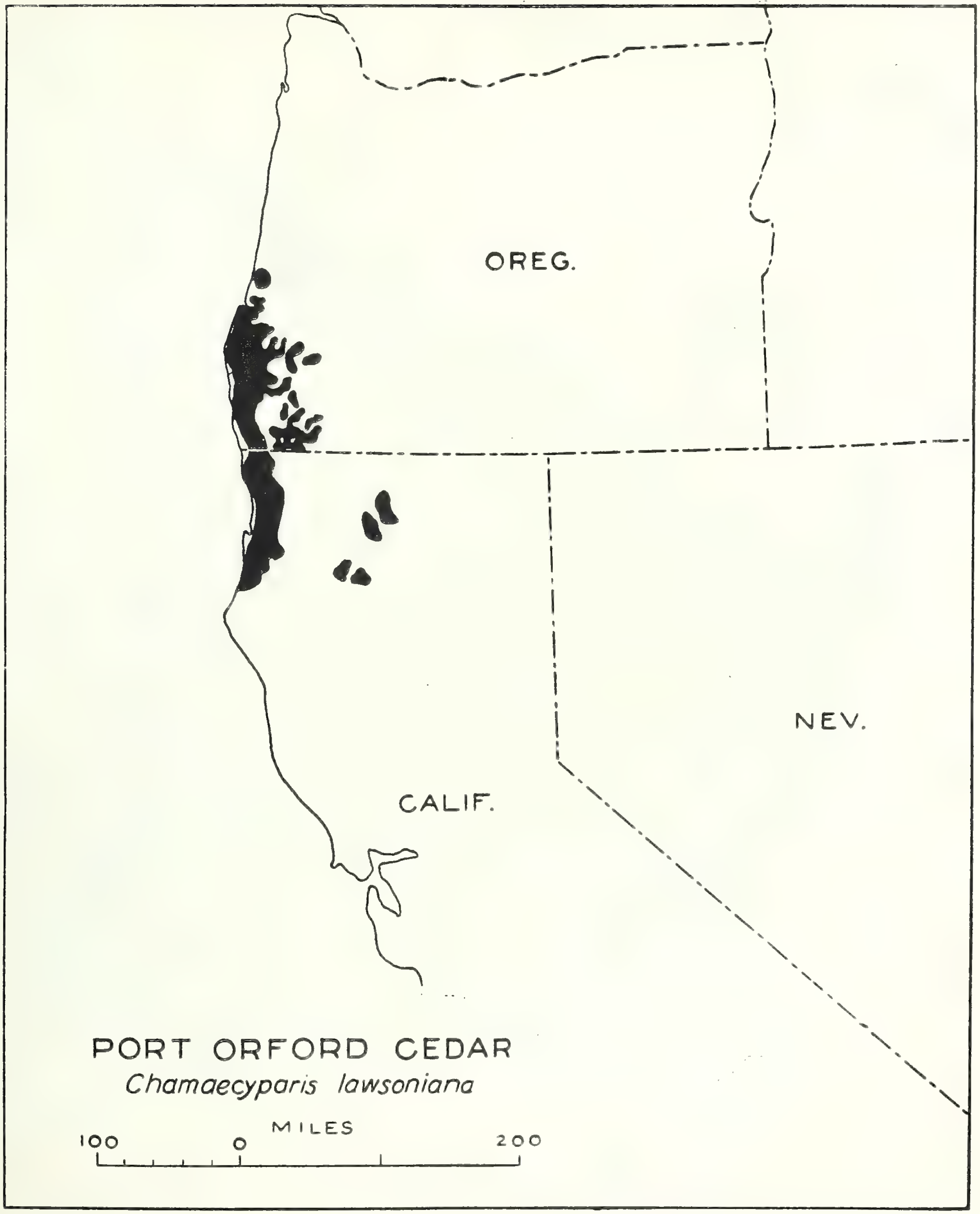
CHAMAECYPARIS THYOIDES (LINNAEUS) BRITTON, STERNS, AND POGGENBERG SOUTHERN WHITE CEDAR



Map 56

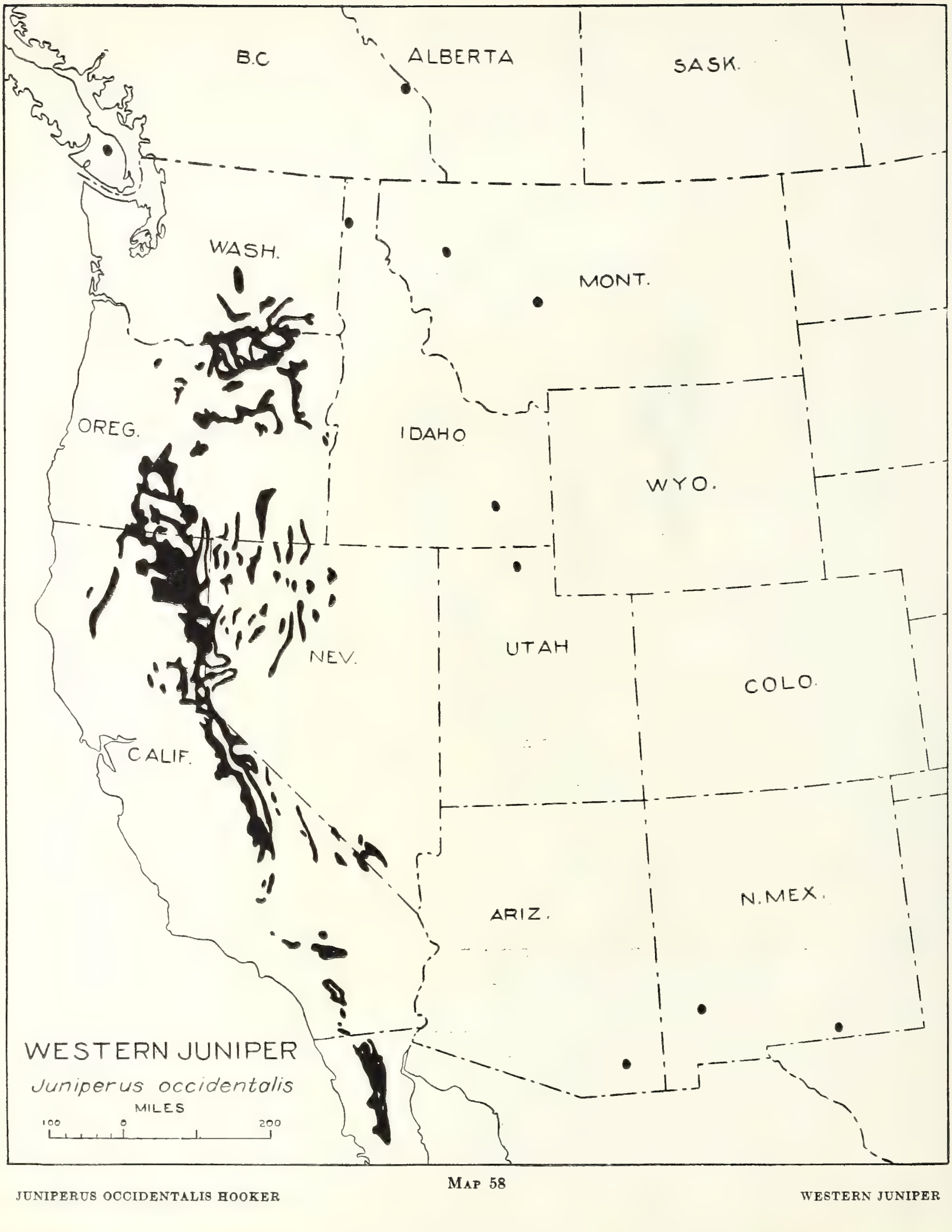
CHAMAECYPARIS NOOTKATENSIS (LAMBERT) SPACH

ALASKA CEDAR



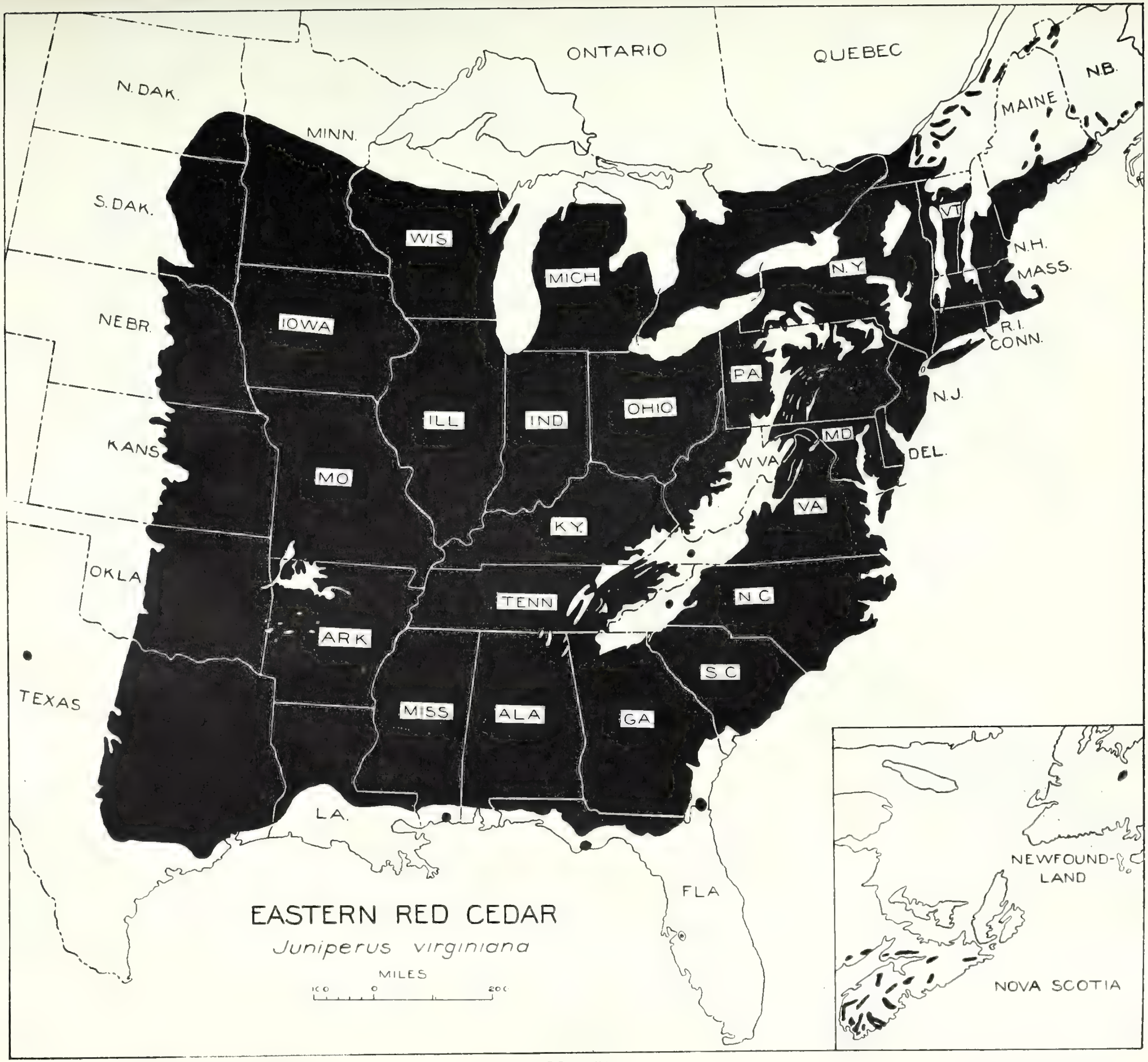
MAP 57

CHAMAECYPARIS LAWSONIANA (A. MURRAY) PARLATORE PORT ORFORD CEDAR

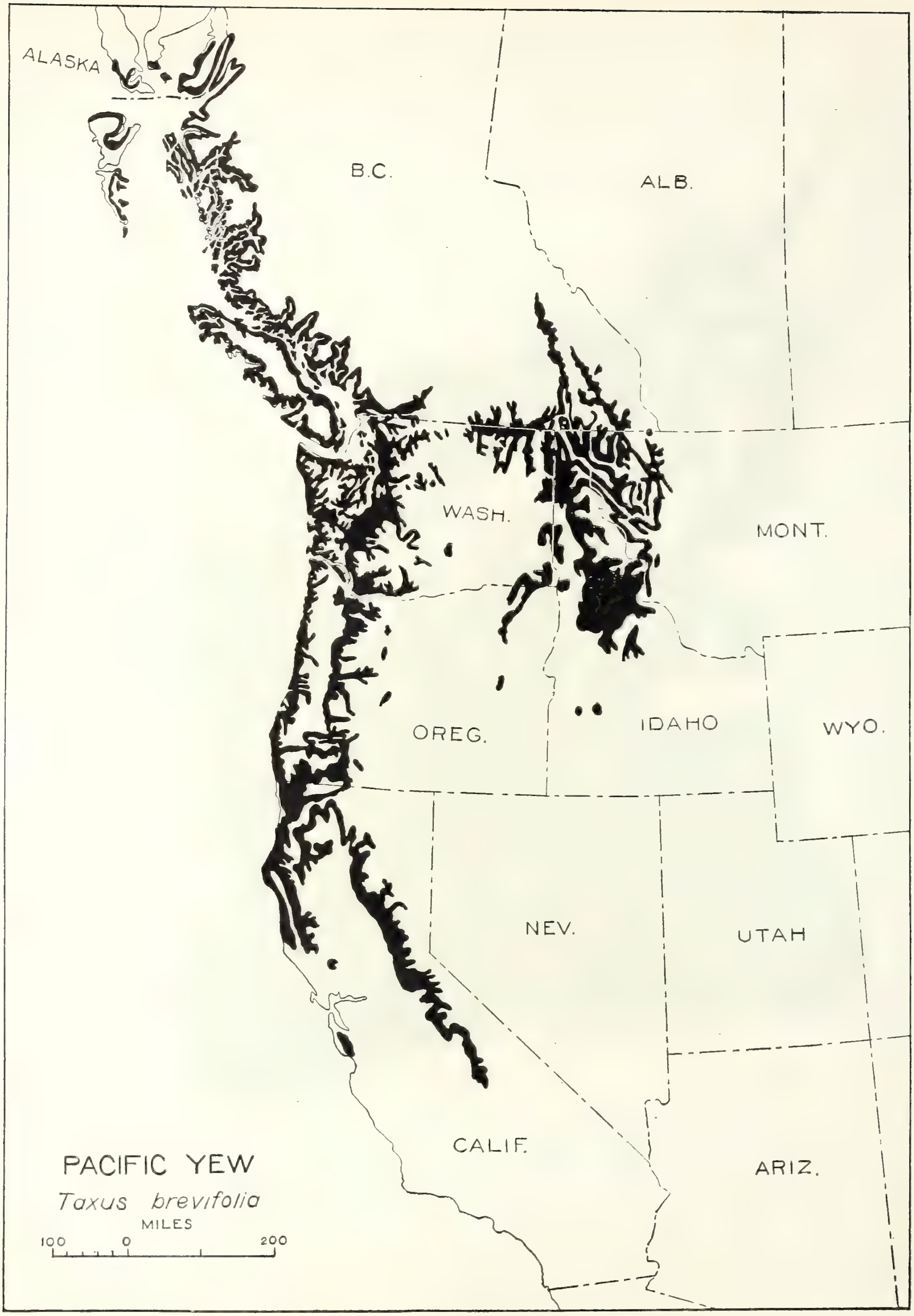


Map 58

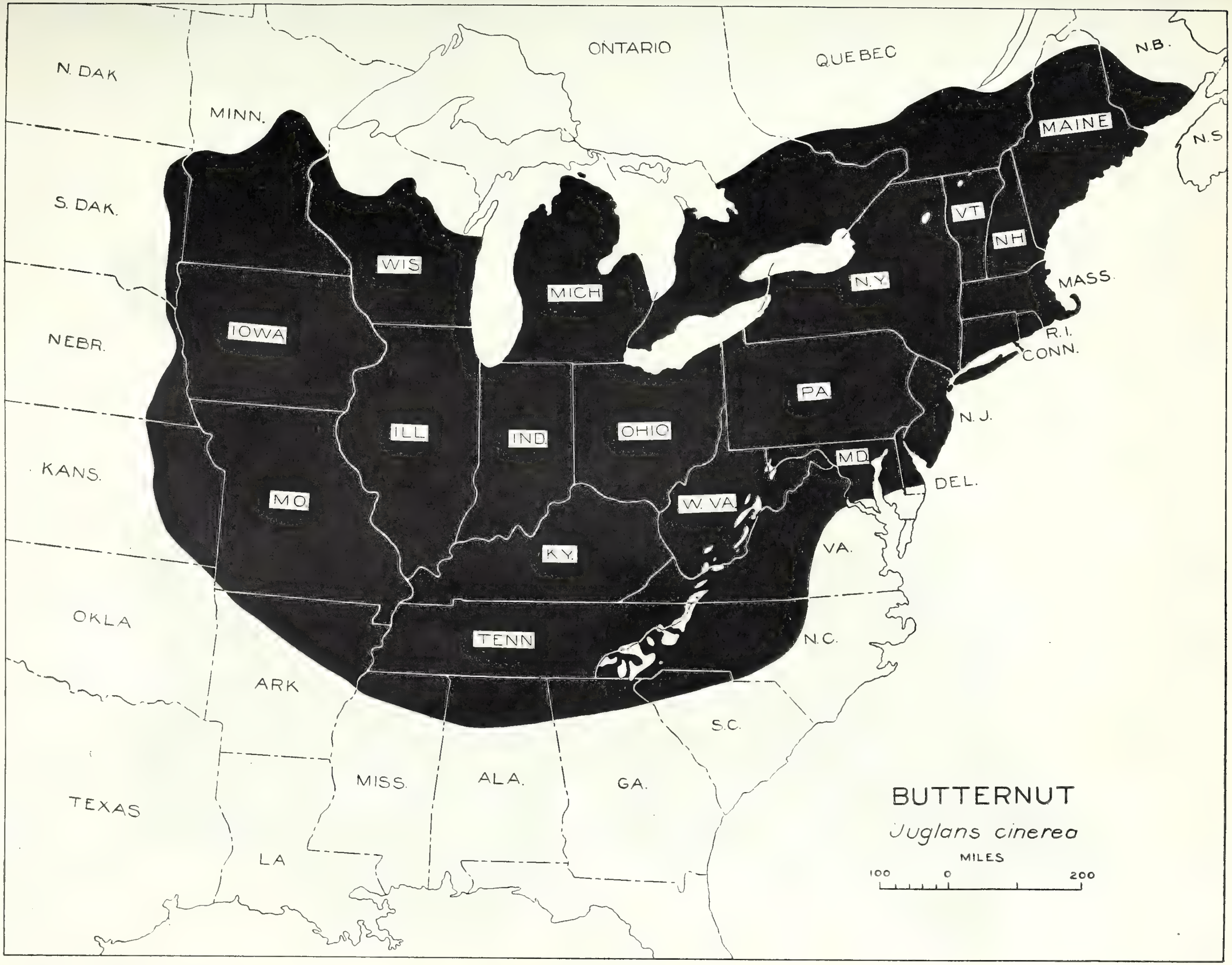
JUNIPERUS OCCIDENTALIS HOOKER WESTERN JUNIPER


ONTARIO
QUEBEC
N. DAK.
MINN.
S. DAK.
NEBR.
KANS.
OKLA.
TEXAS
WIS.
IOWA
MICH.
ILL.
IND.
OHIO
MO.
KY.
TENN.
ARK.
MISS.
ALA.
GA.
LA.
FLA.
S.C.
N.C.
VA.
W.VA.
MD.
DEL.
N.J.
PA.
N.Y.
VT.
N.H.
MASS.
R.I.
CONN.
MAINE
NB.
NEWFOUND-LAND
NOVA SCOTIA
EASTERN RED CEDAR
Juniperus virginiana
MILES
100
0
200

Map 59


ALASKA
B.C.
ALB.
WASH.
MONT.
OREG.
IDAHO
WYO.
NEV.
UTAH
CALIF.
ARIZ.
PACIFIC YEW
Taxus brevifolia
MILES
100
0
200

MAP 60

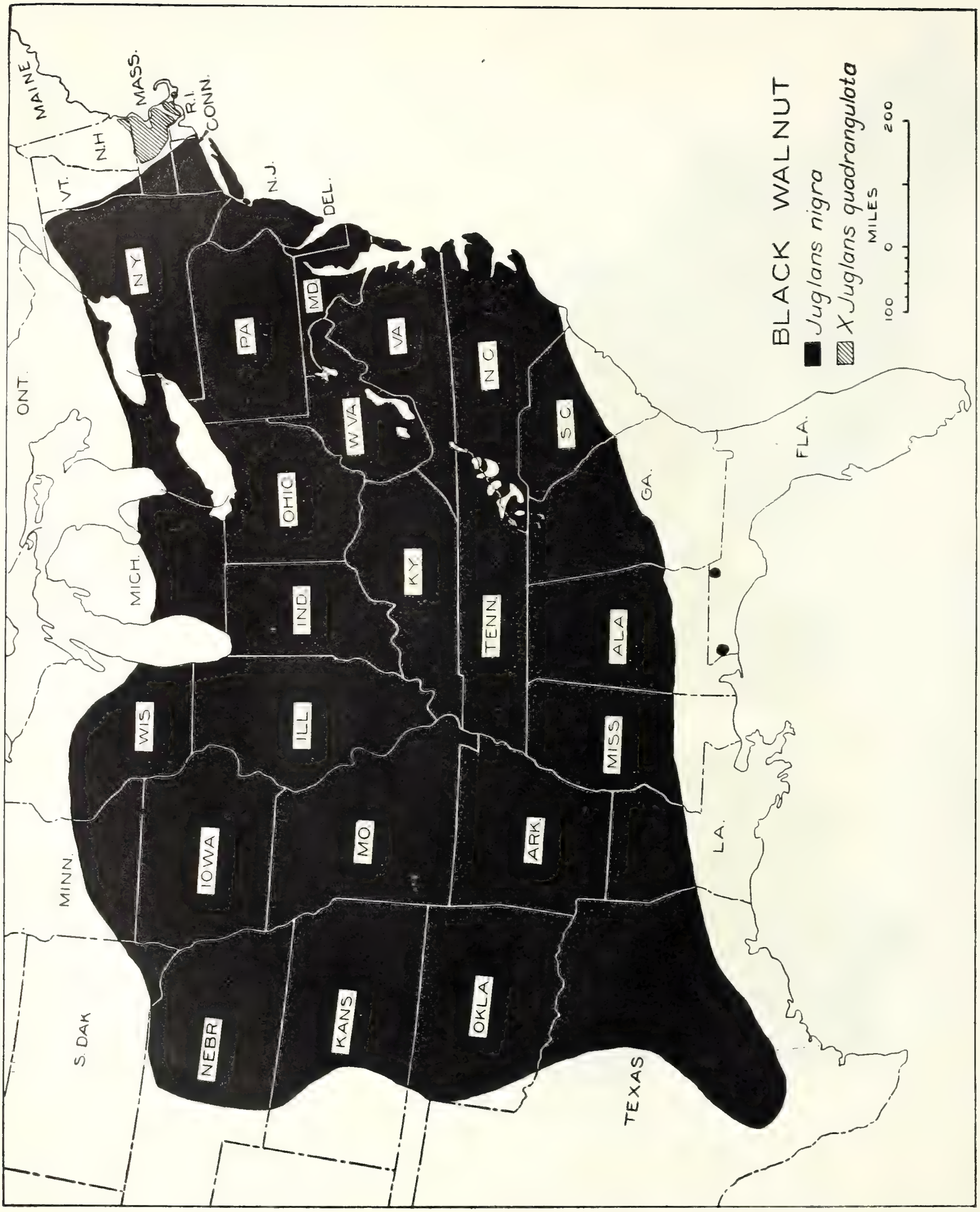


JUGLANS CINEREA LINNAEUS

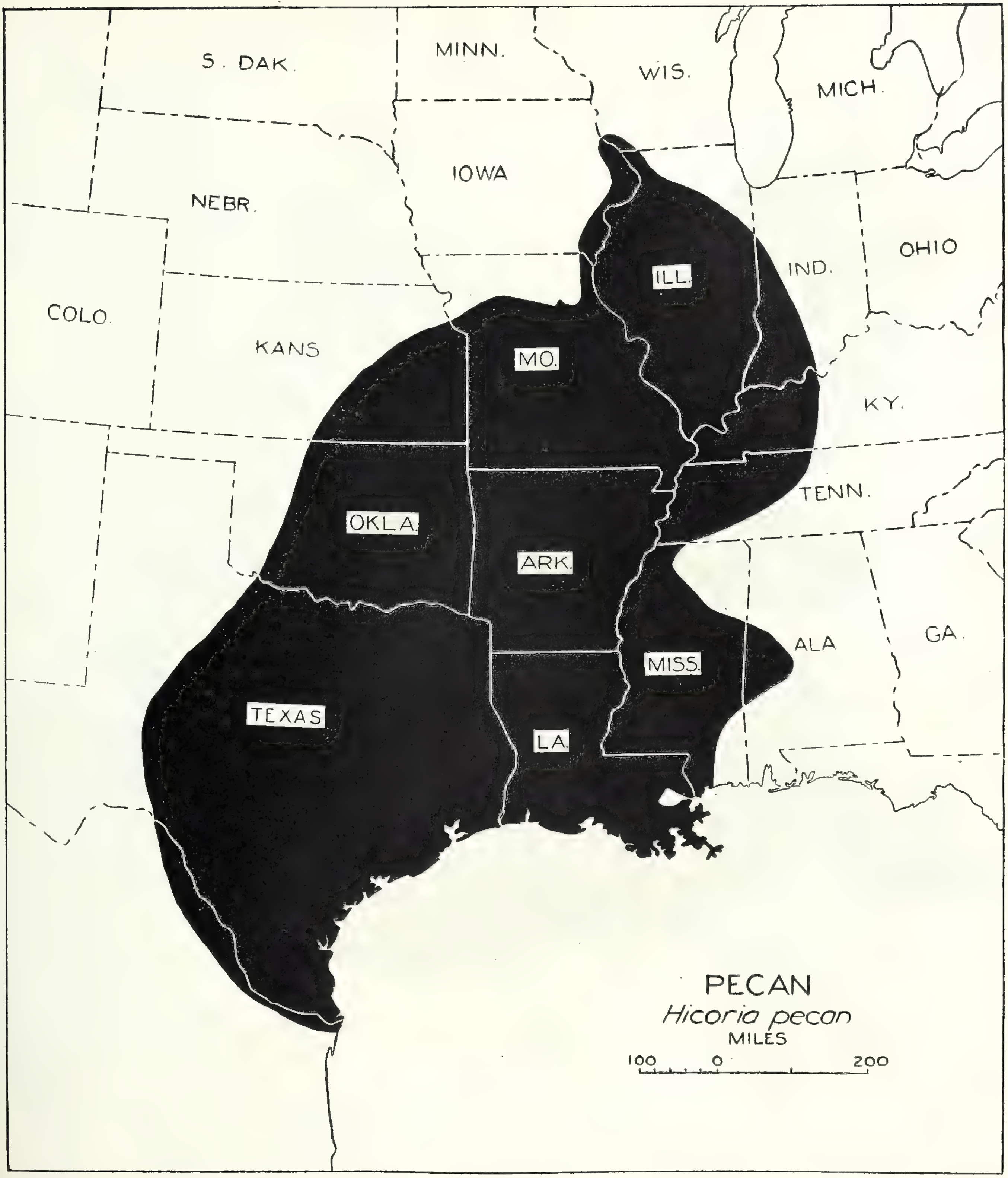
Map 61

BUTTERNUT

X JUGLANS QUADRANGULATA REHDER
JUGLANS NIGRA LINNAEUS



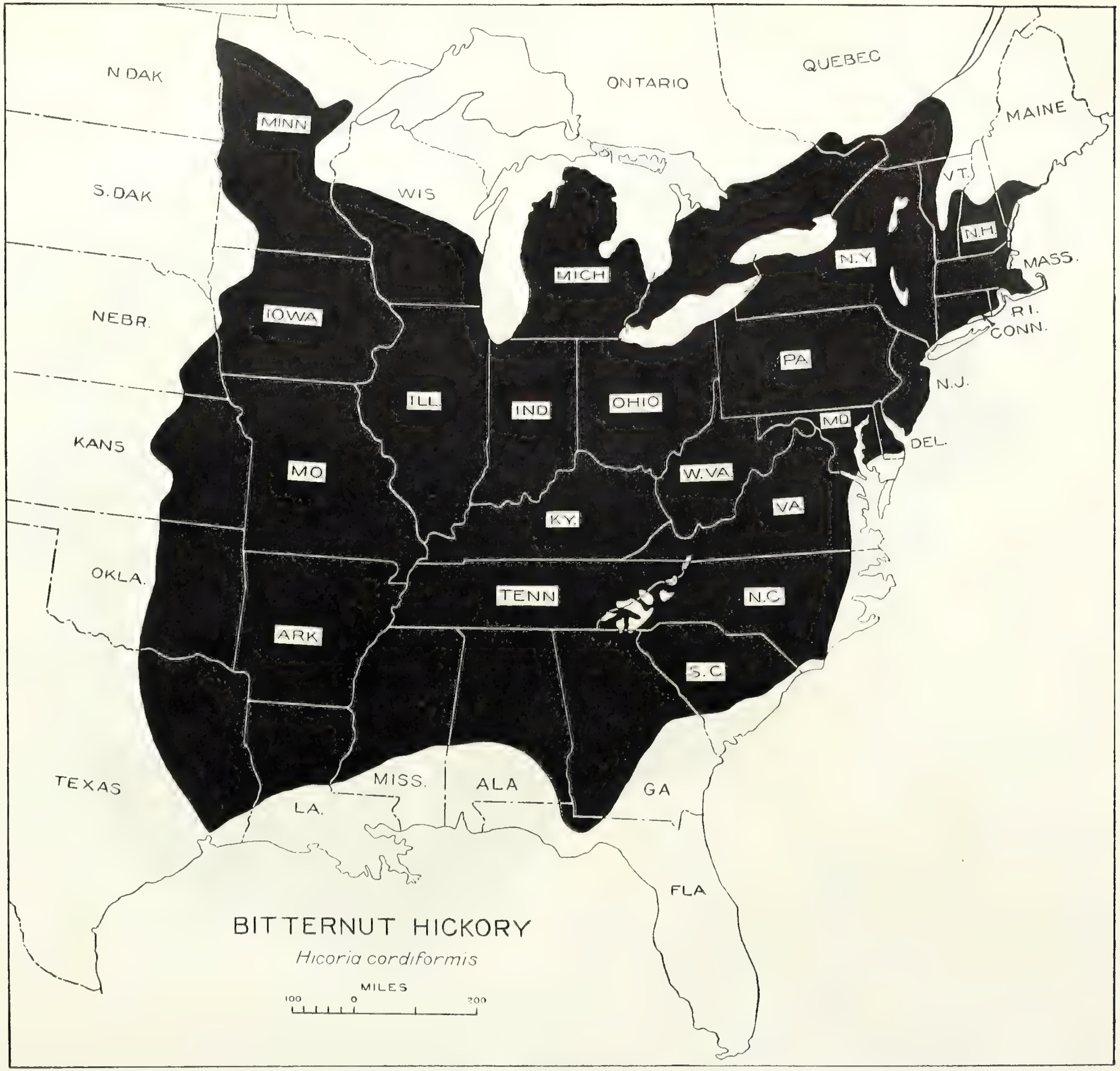
MAP 62



Map 63

HICORIA PECAN (MARSHALL) BRITTON

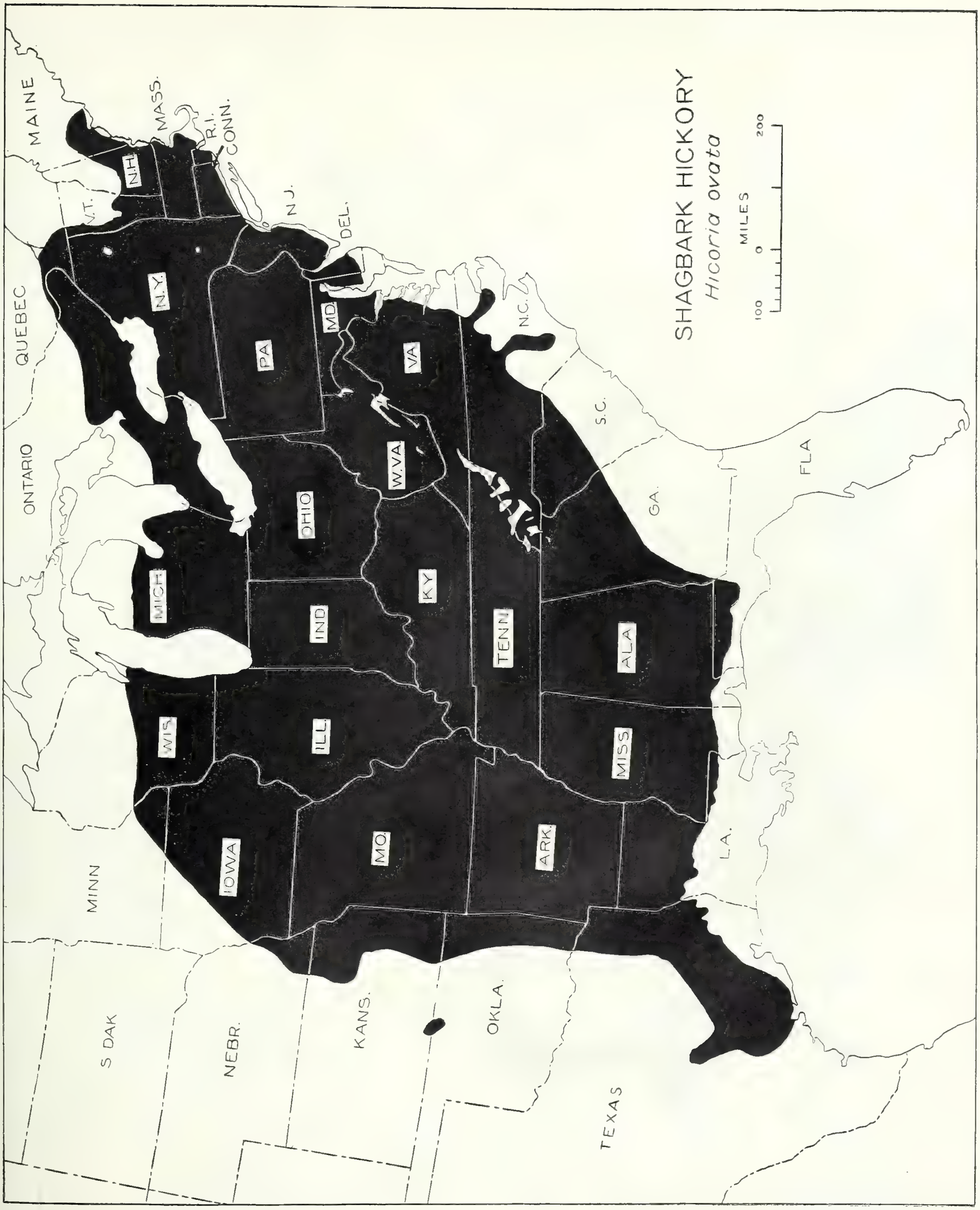
PECAN



Map 64

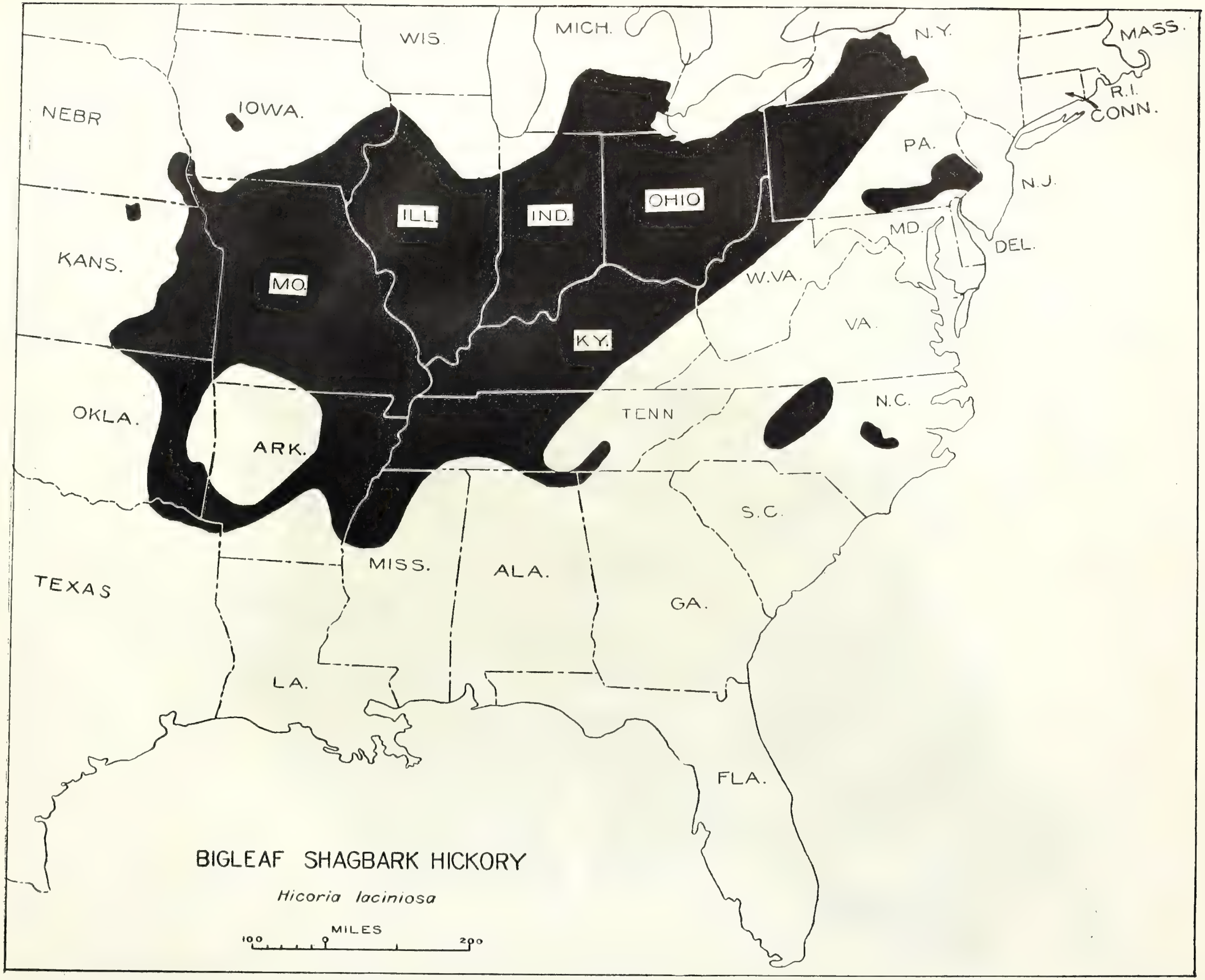
HICORIA CORDIFORMIS (WANGENHEIM) BRITTON **BITTERNUT HICKORY**

SHAGBARK HICKORY



Map 65

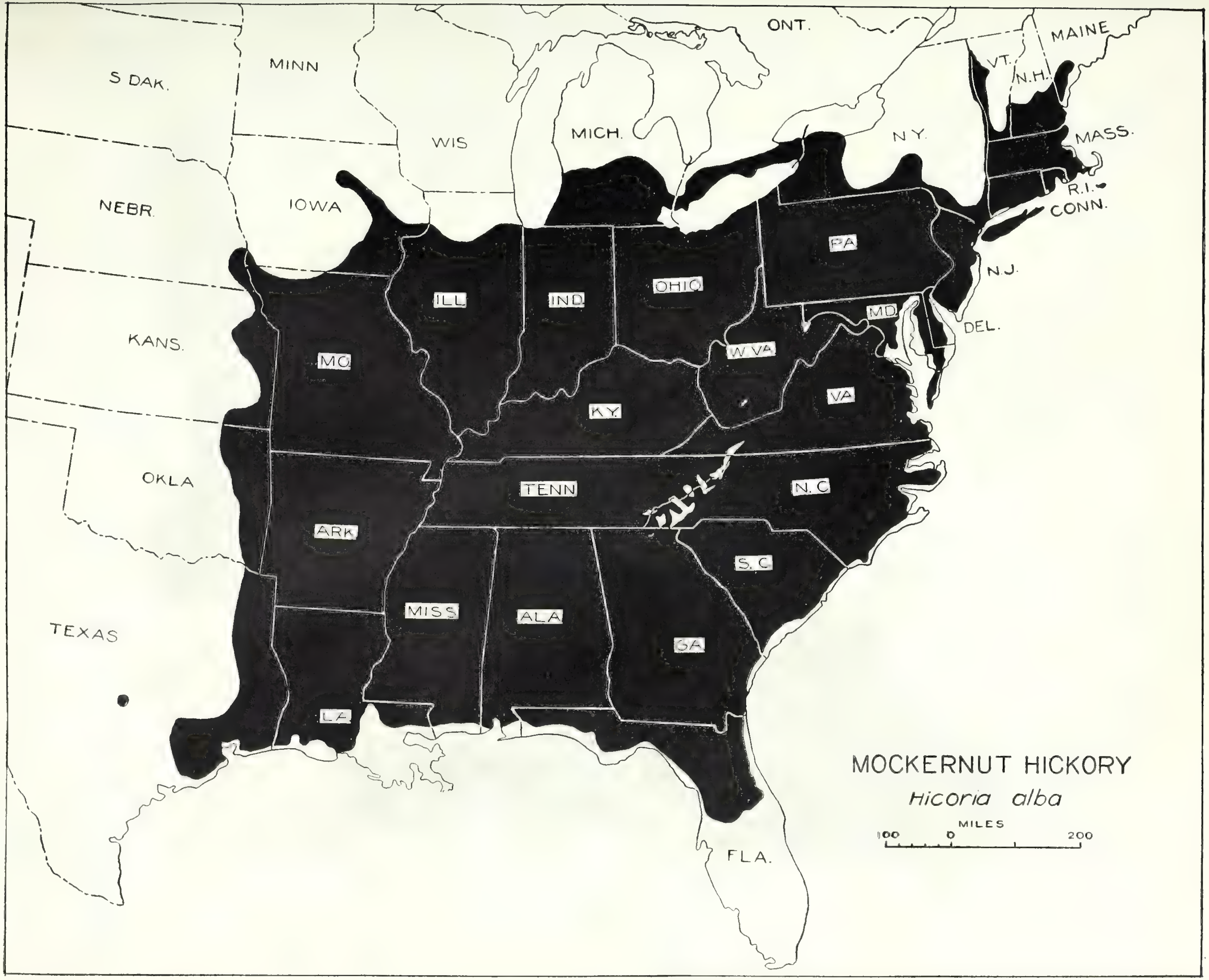
HICORIA OVATA (MILLER) BRITTON



Map 66

HICORIA LACINIOSA (MICHAUX FILIUS) SARGENT

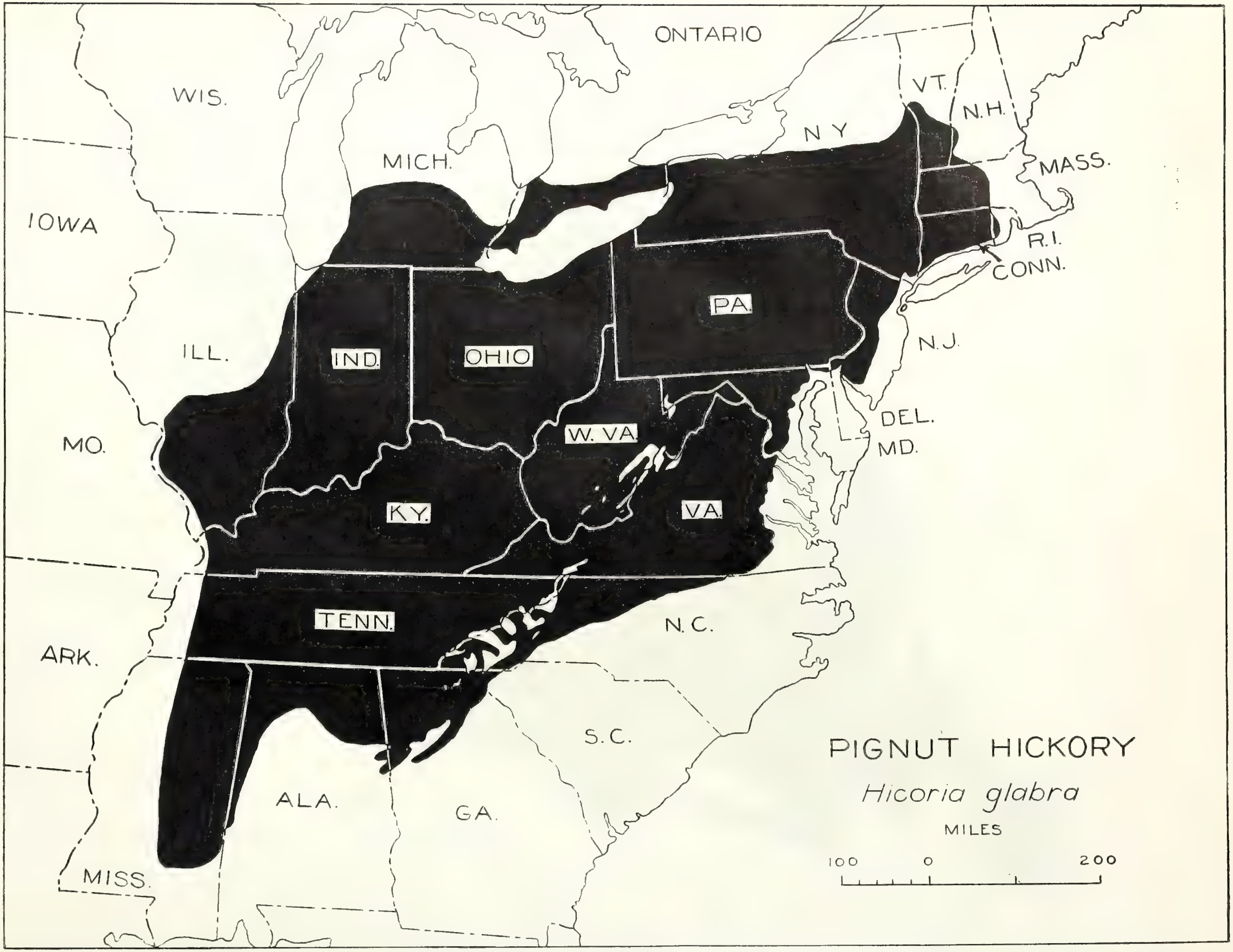
BIGLEAF SHAGBARK HICKORY



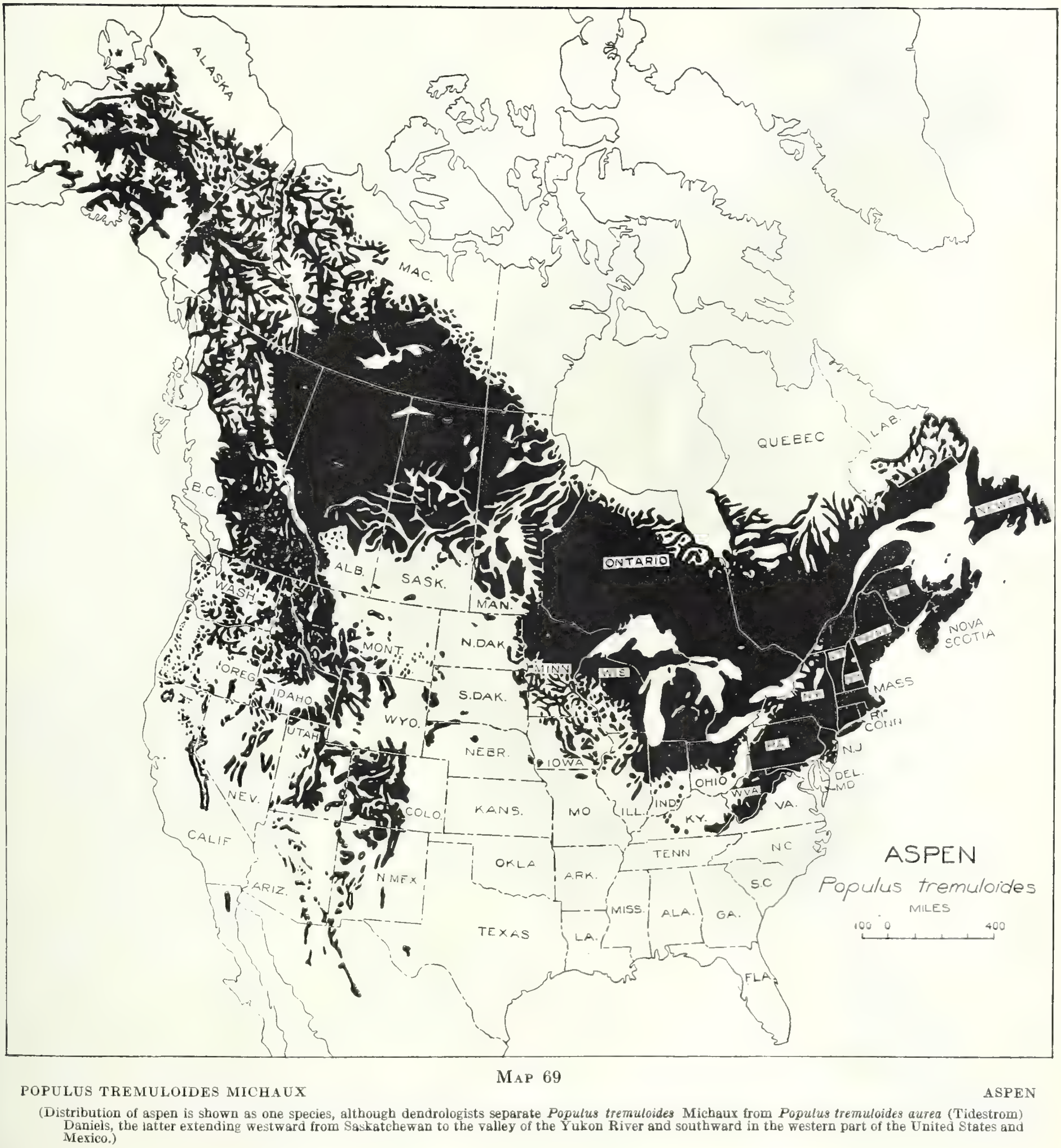
Map 67

HICORIA ALBA (LINNAEUS) BRITTON

MOCKERNUT HICKORY


PIGNUT HICKORY
Hicoria glabra
MILES
100
0
200
ONTARIO
WIS.
MICH.
N.Y.
VT.
N.H.
MASS.
R.I.
CONN.
IOWA
ILL.
IND.
OHIO
PA.
N.J.
DEL.
MD.
MO.
W. VA.
KY.
VA.
TENN.
N.C.
ARK.
S.C.
ALA.
GA.
MISS.

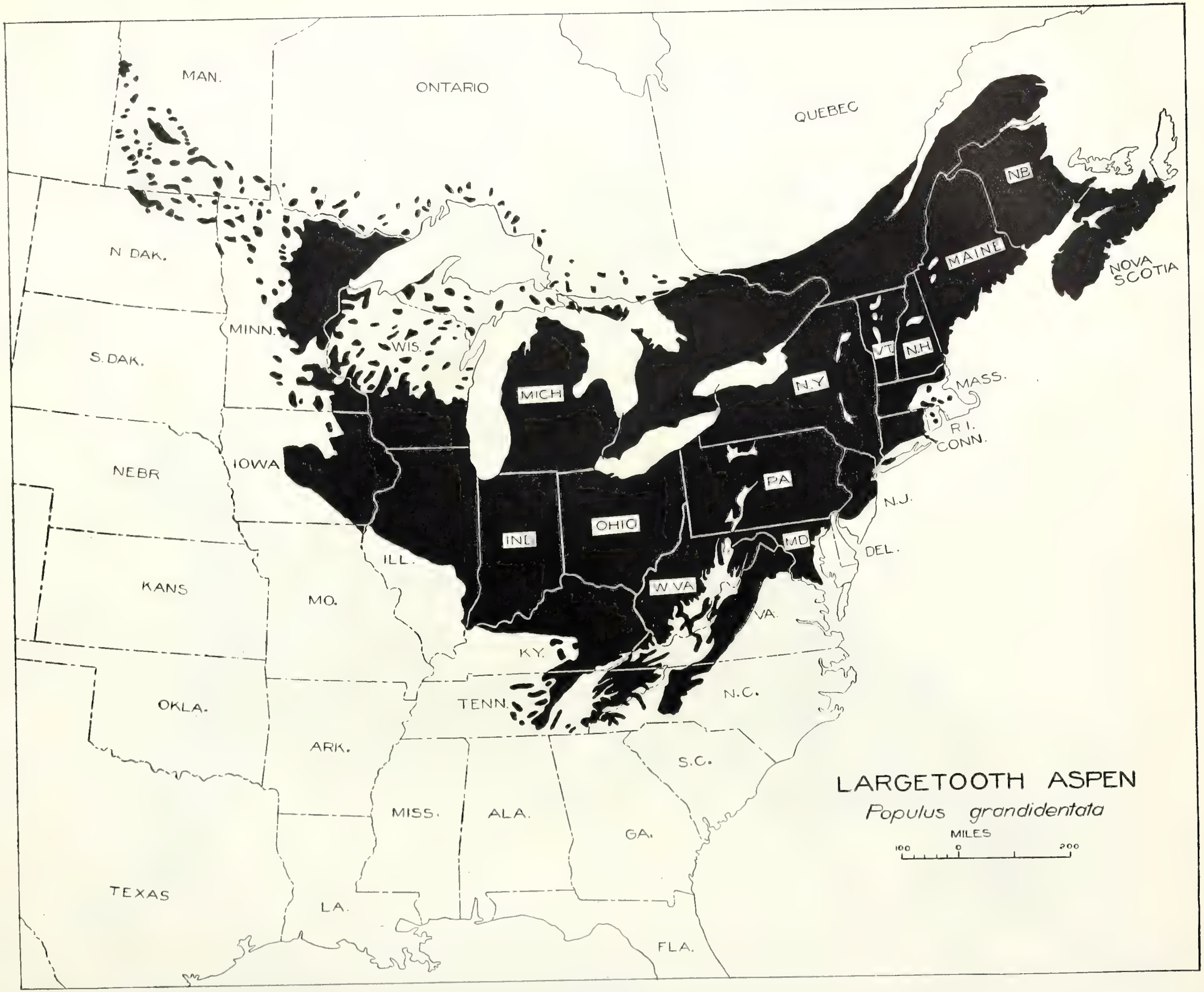
Map 68



Map 69

POPULUS TREMULOIDES MICHAUX ASPEN

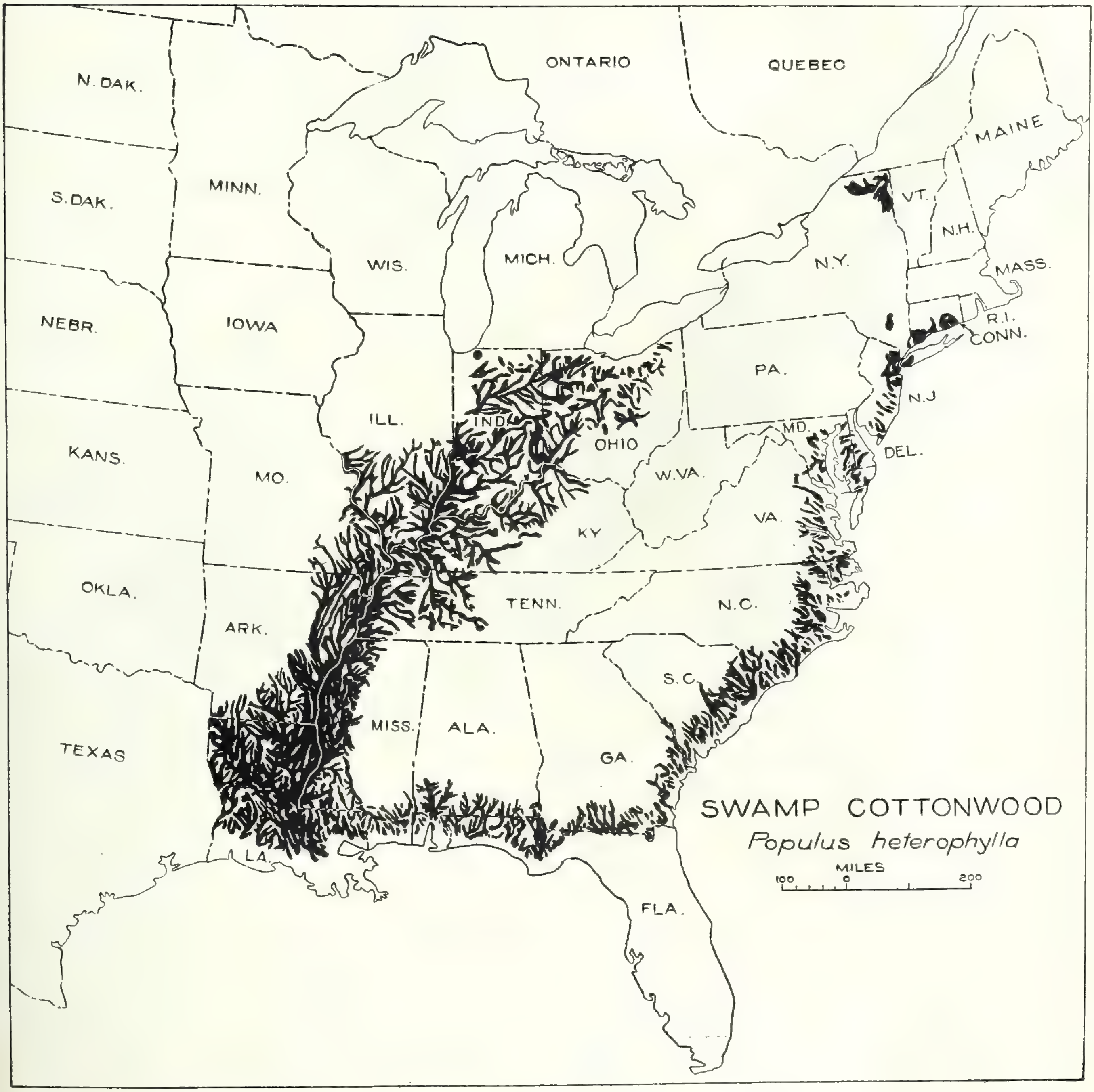
(Distribution of aspen is shown as one species, although dendrologists separate *Populus tremuloides* Michaux from *Populus tremuloides aurea* (Tidestrom) Daniels, the latter extending westward from Saskatchewan to the valley of the Yukon River and southward in the western part of the United States and Mexico.)



Map 70

POPULUS GRANDIDENTATA MICHAUX

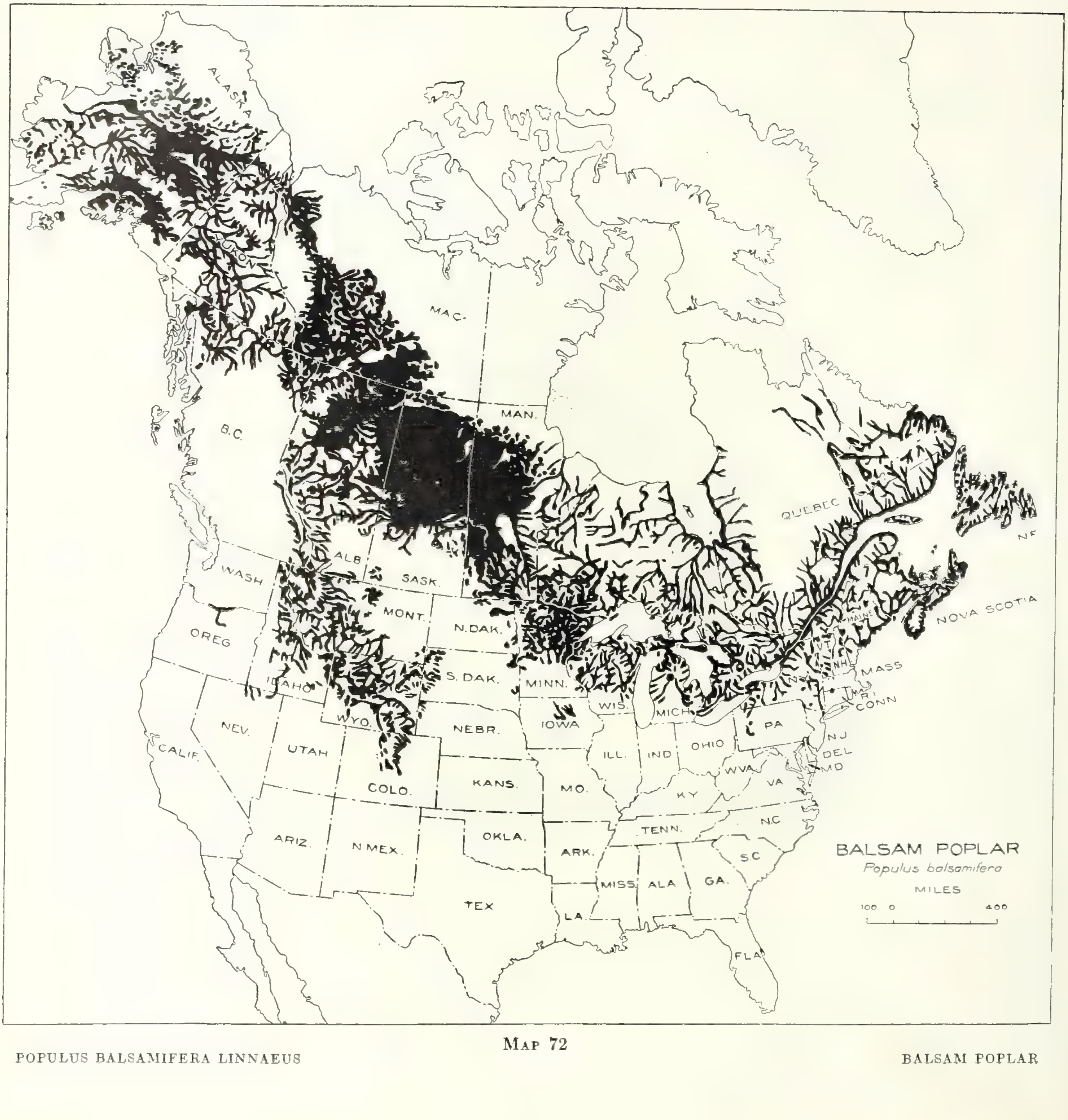
LARGETOOTH ASPEN



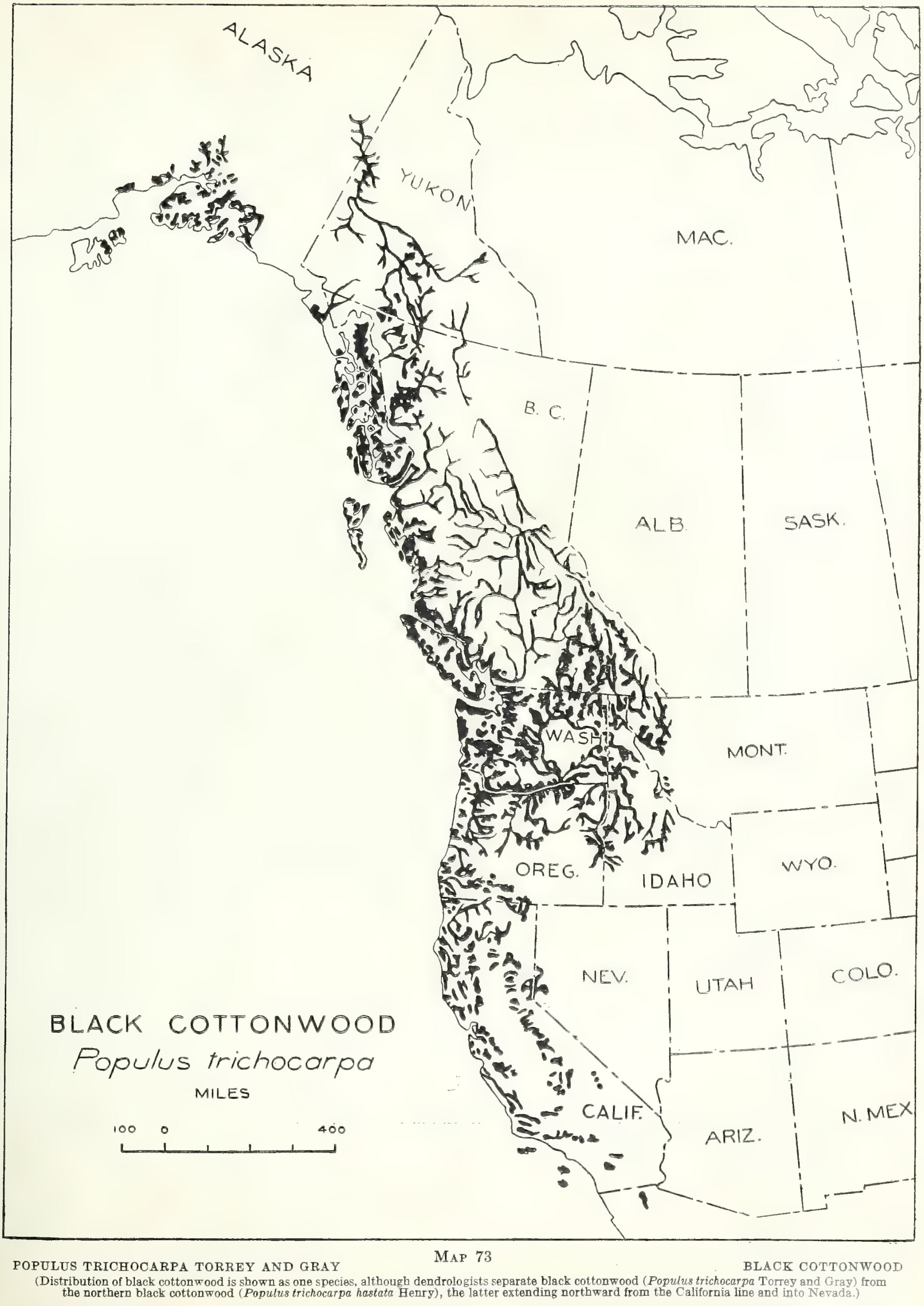
Map 71

POPULUS HETEROPHYLLA LINNAEUS

SWAMP COTTONWOOD



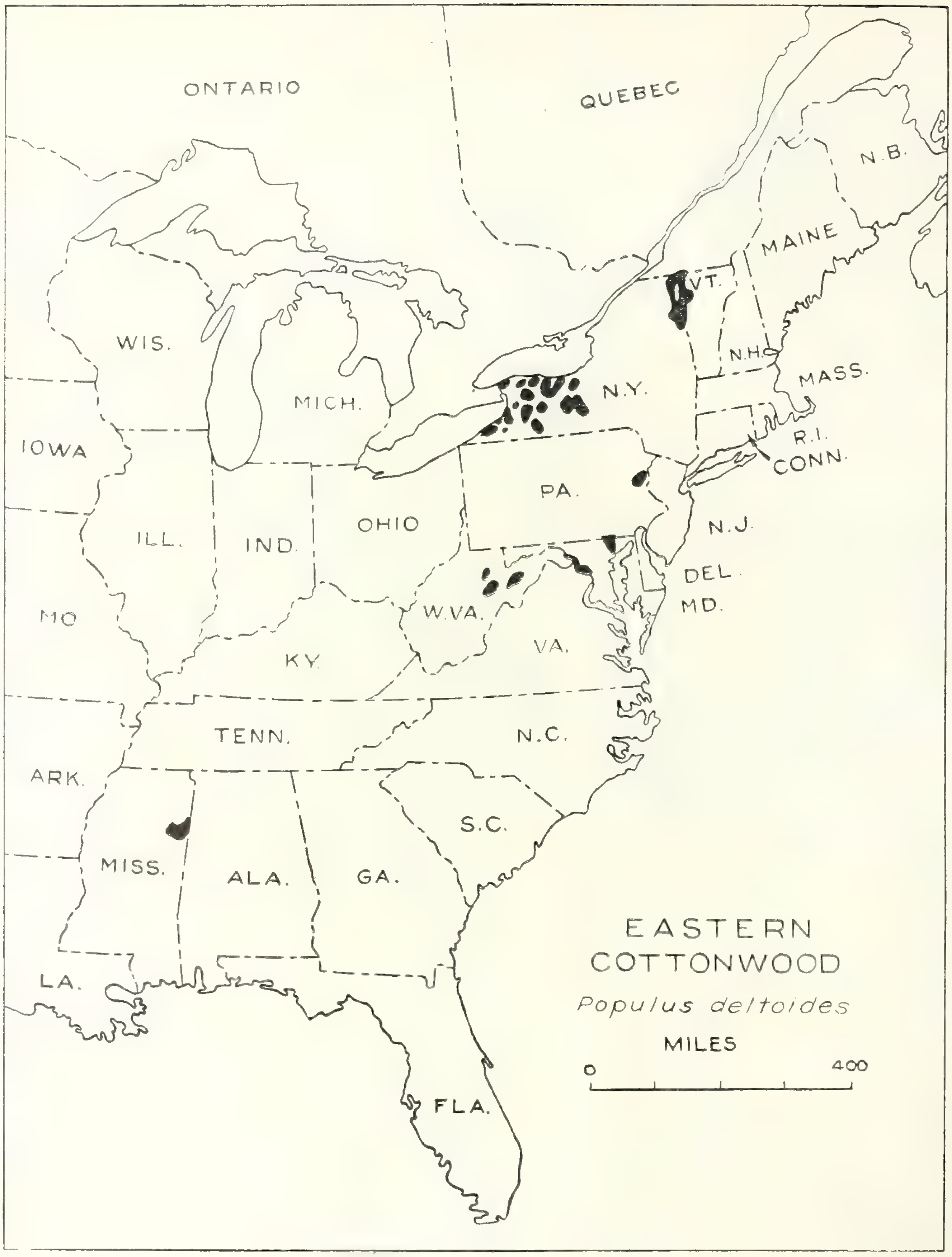
POPULUS BALSAMIFERA LINNAEUS **Map 72** BALSAM POPLAR



MAP 73

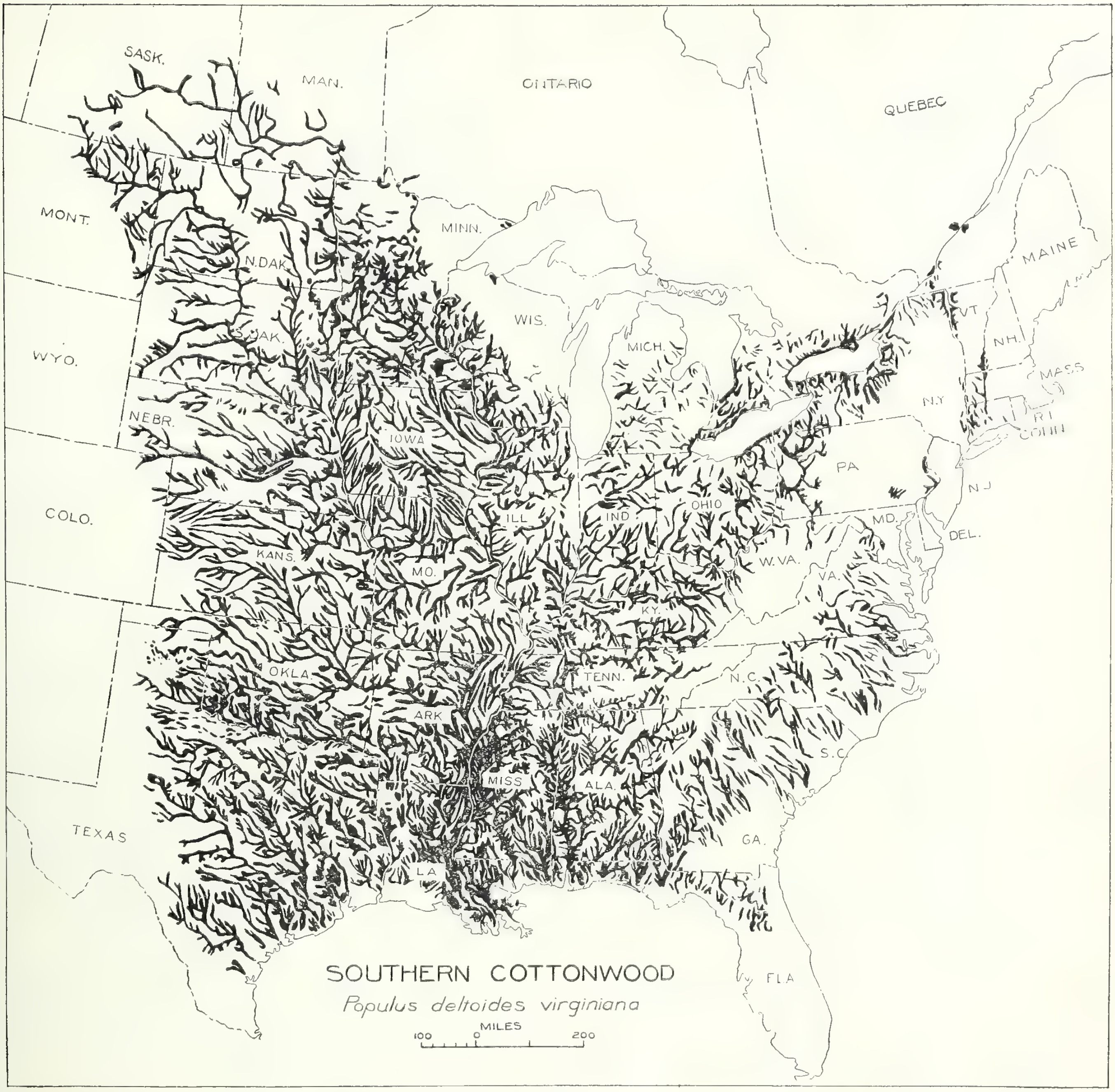
POPULUS TRICHOCARPA TORREY AND GRAY — BLACK COTTONWOOD

(Distribution of black cottonwood is shown as one species, although dendrologists separate black cottonwood (*Populus trichocarpa* Torrey and Gray) from the northern black cottonwood (*Populus trichocarpa hastata* Henry), the latter extending northward from the California line and into Nevada.)



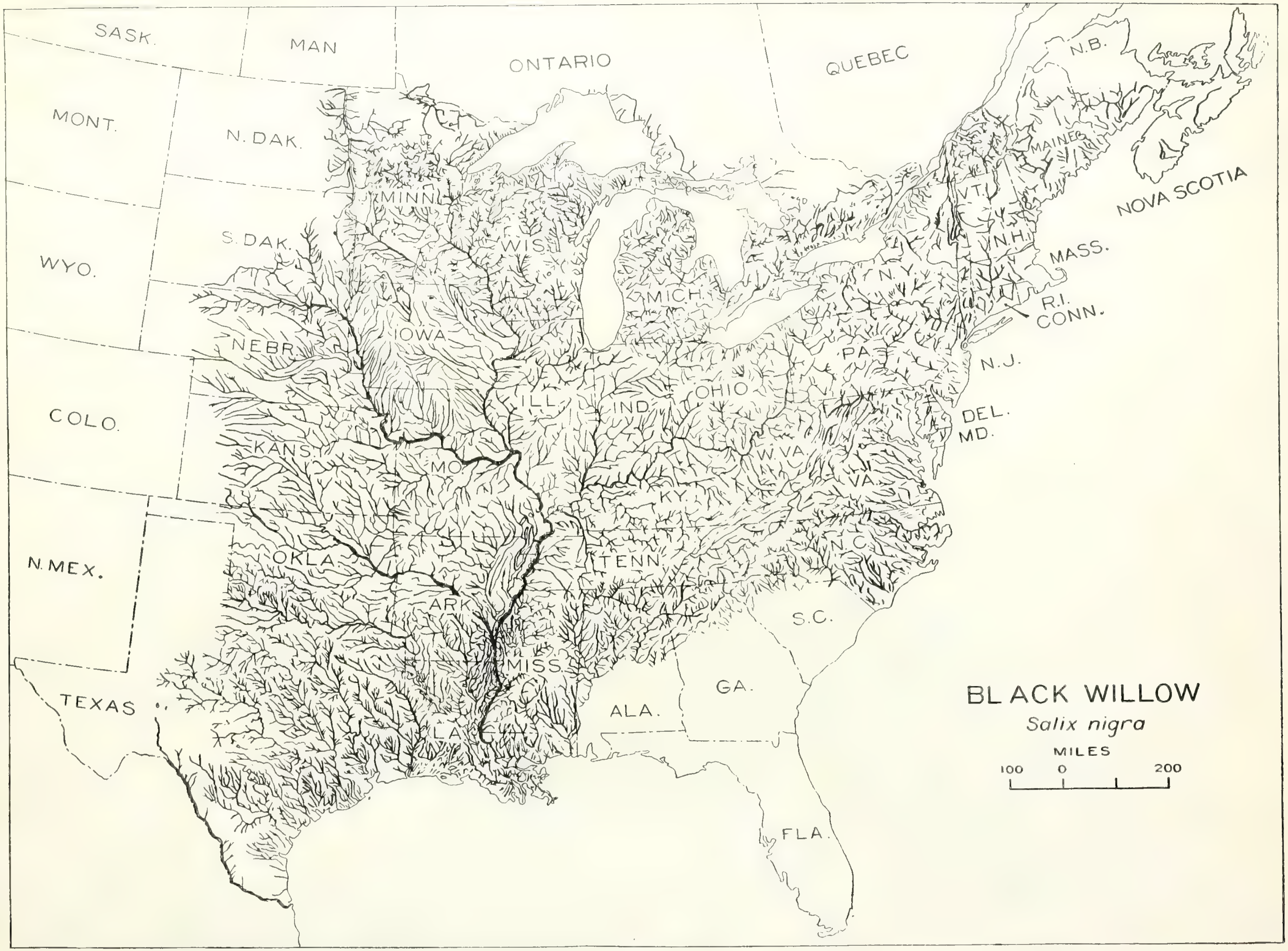
Map 74

POPULUS DELTOIDES MARSHALL EASTERN COTTONWOOD



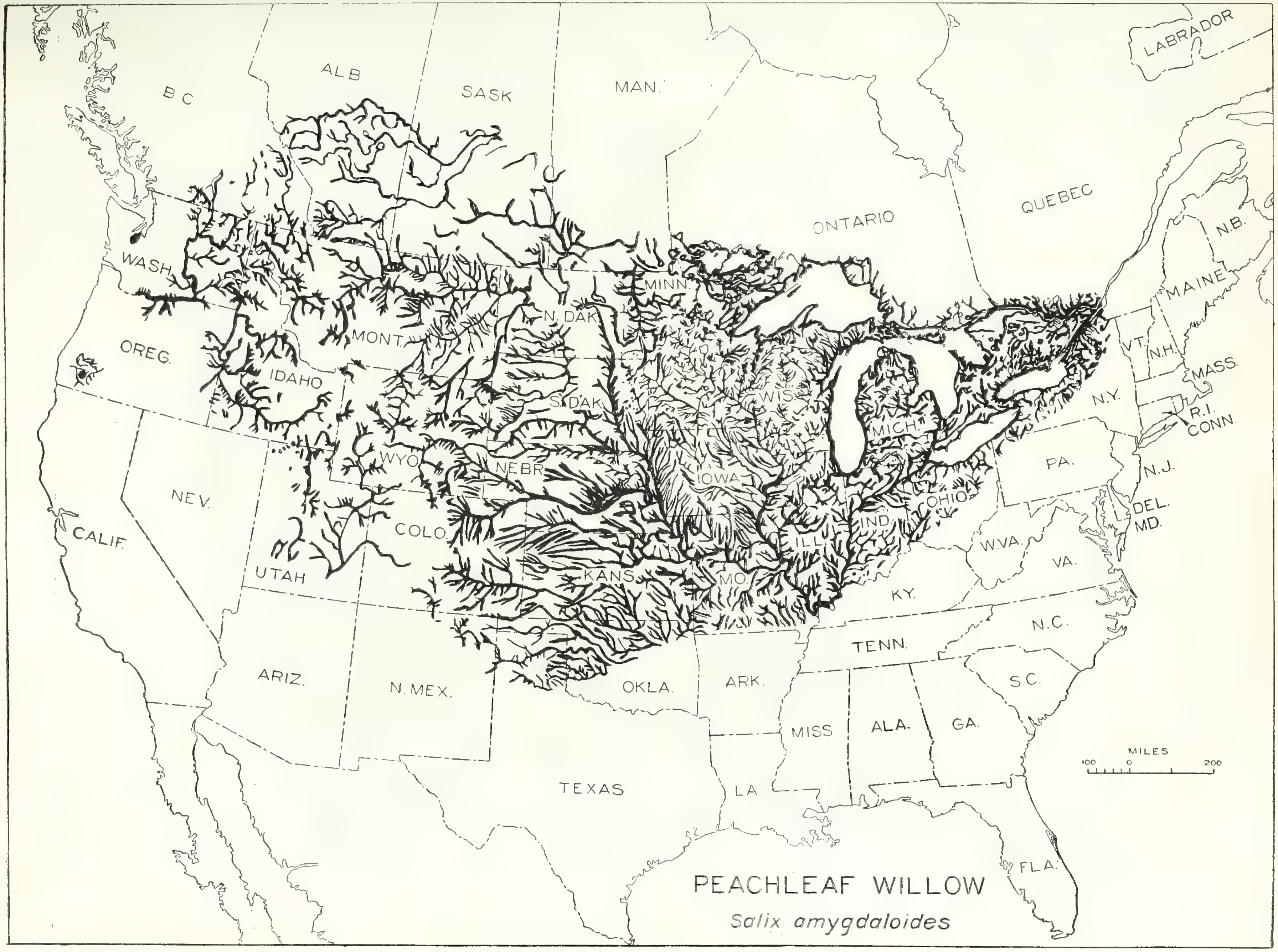
MAP 75

POPULUS DELTOIDES VIRGINIANA (CASTIGLIONI) SUDWORTH — SOUTHERN COTTONWOOD



BLACK WILLOW
Salix nigra

Map 76



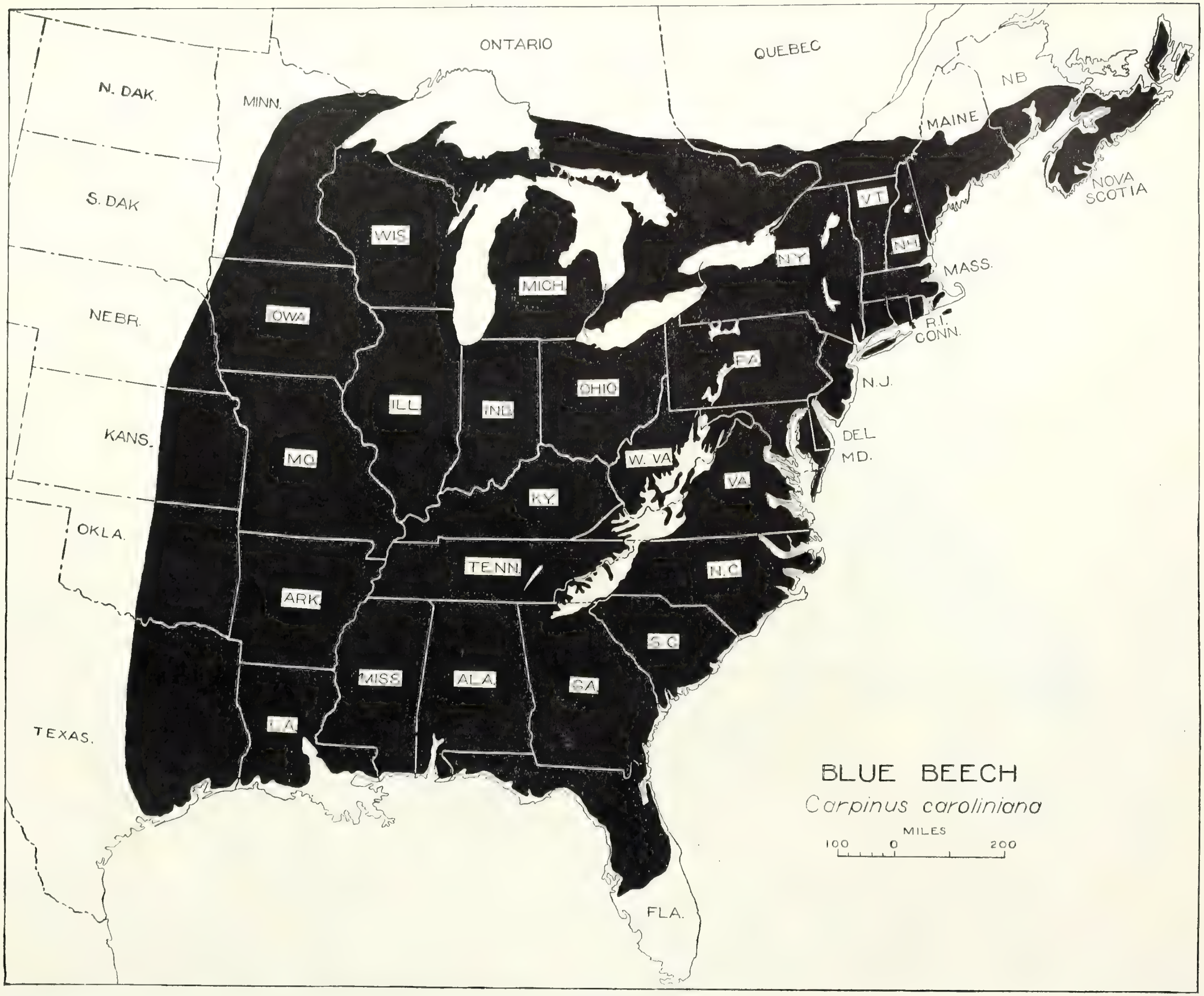
PEACHLEAF WILLOW

Salix amygdaloides

Map 77

SALIX AMYGDALOIDES ANDERSSON

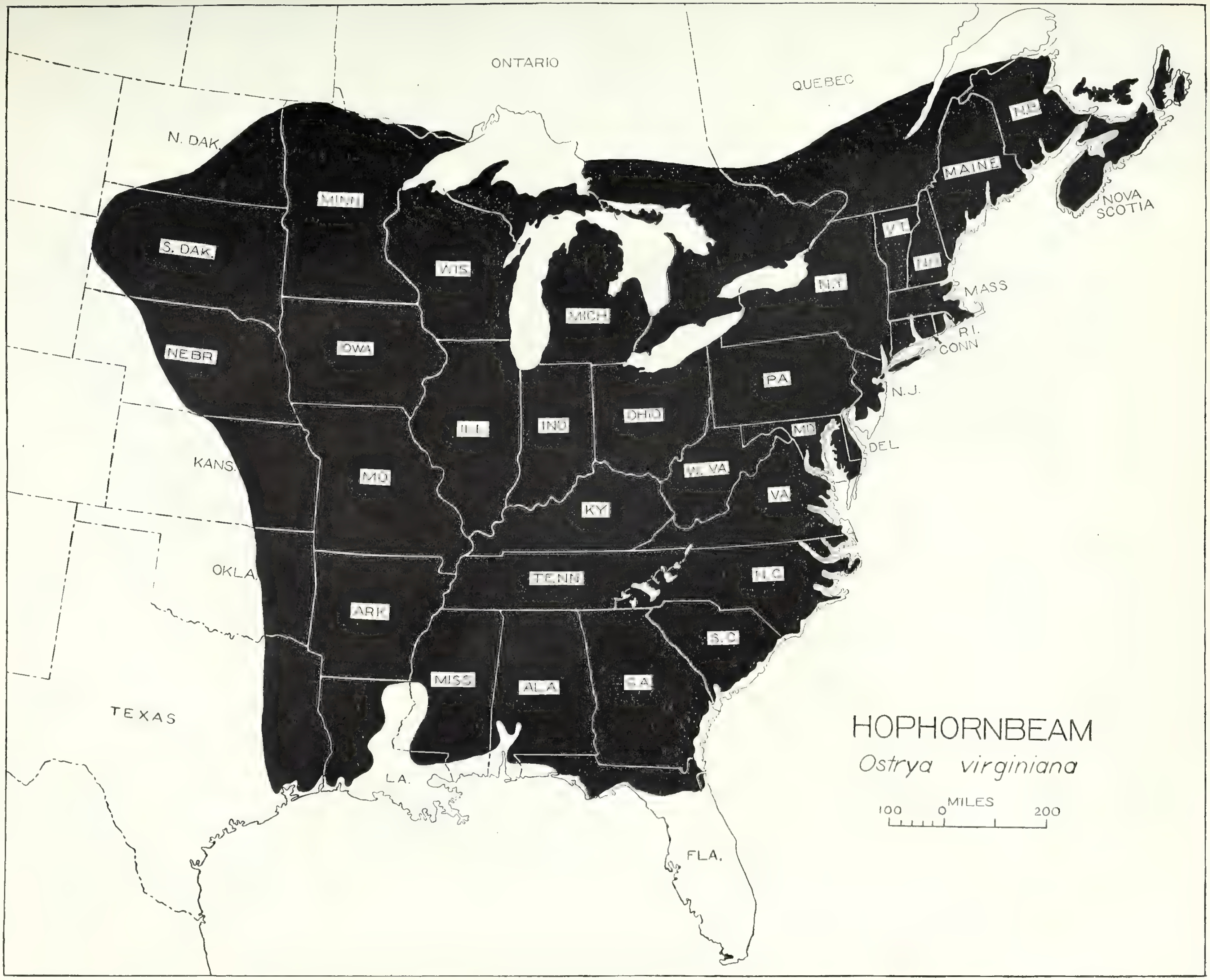
PEACHLEAF WILLOW



CARPINUS CAROLINIANA WALTER

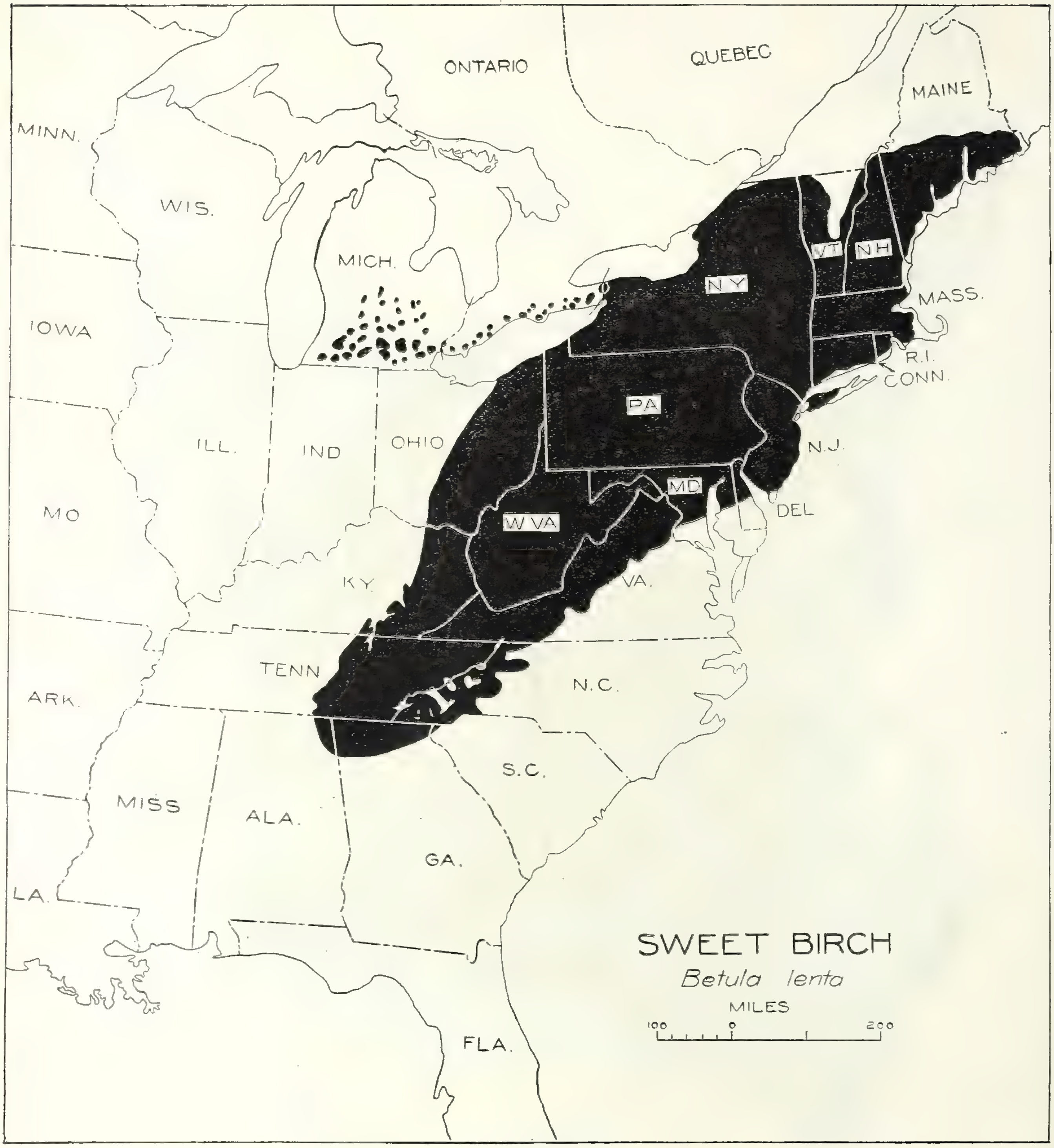
Map 78

BLUE BEECH



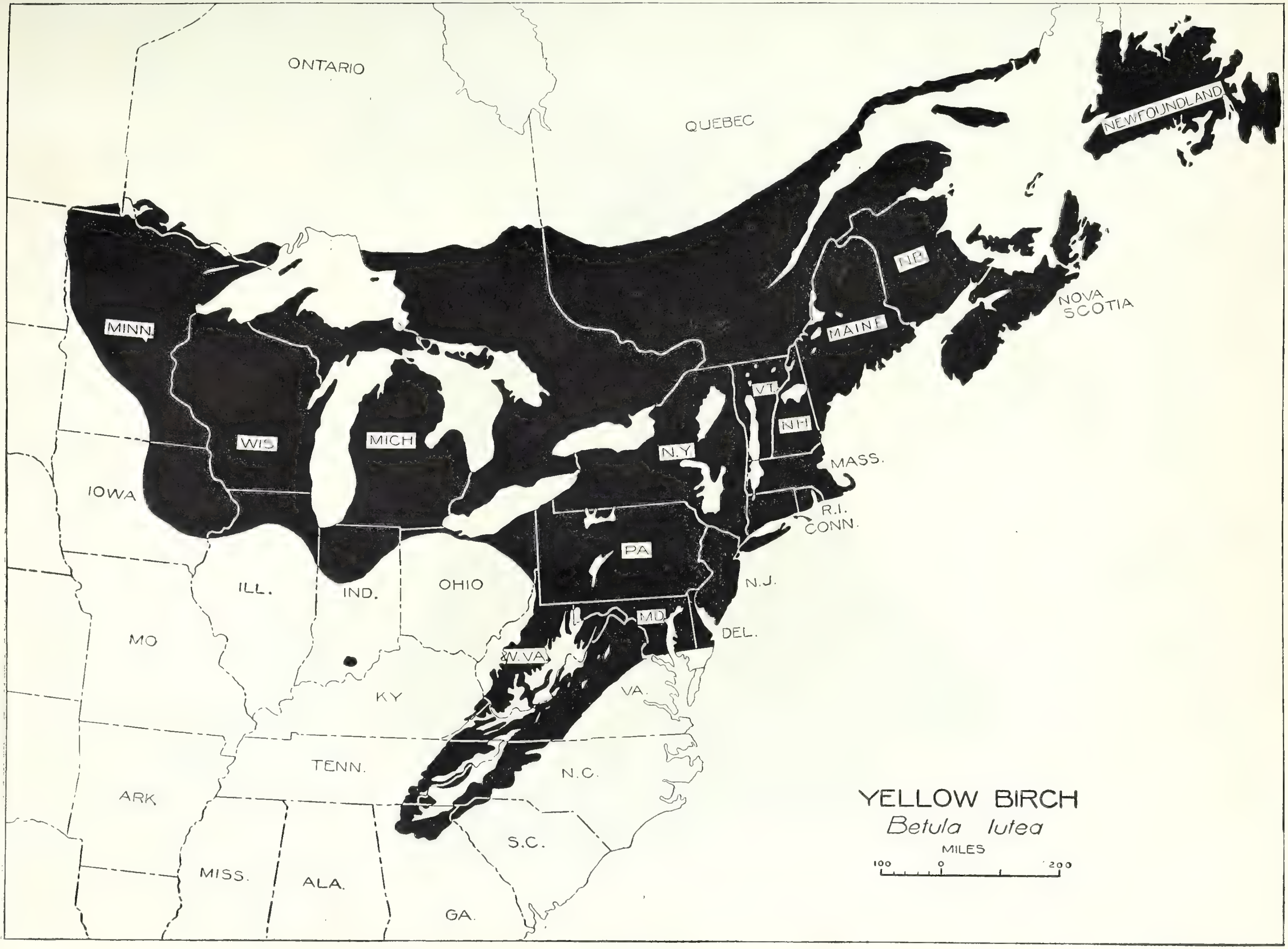
Map 79

OSTRYA VIRGINIANA (MILLER) K. KOCH — HOPHORNBEAM



Map 80

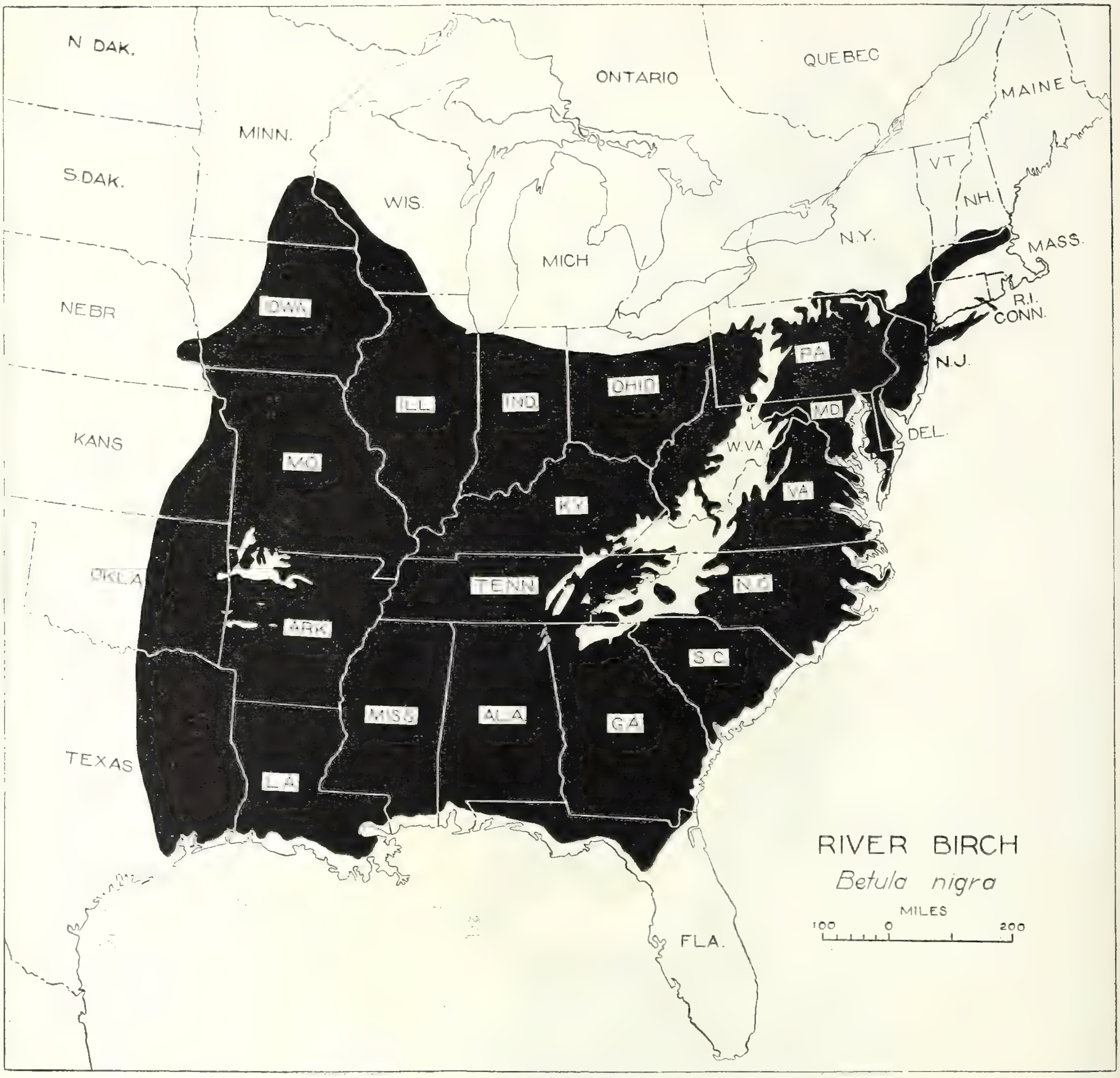
BETULA LENTA LINNAEUS SWEET BIRCH



Map 81

BETULA LUTEA MICHAUX FILIUS

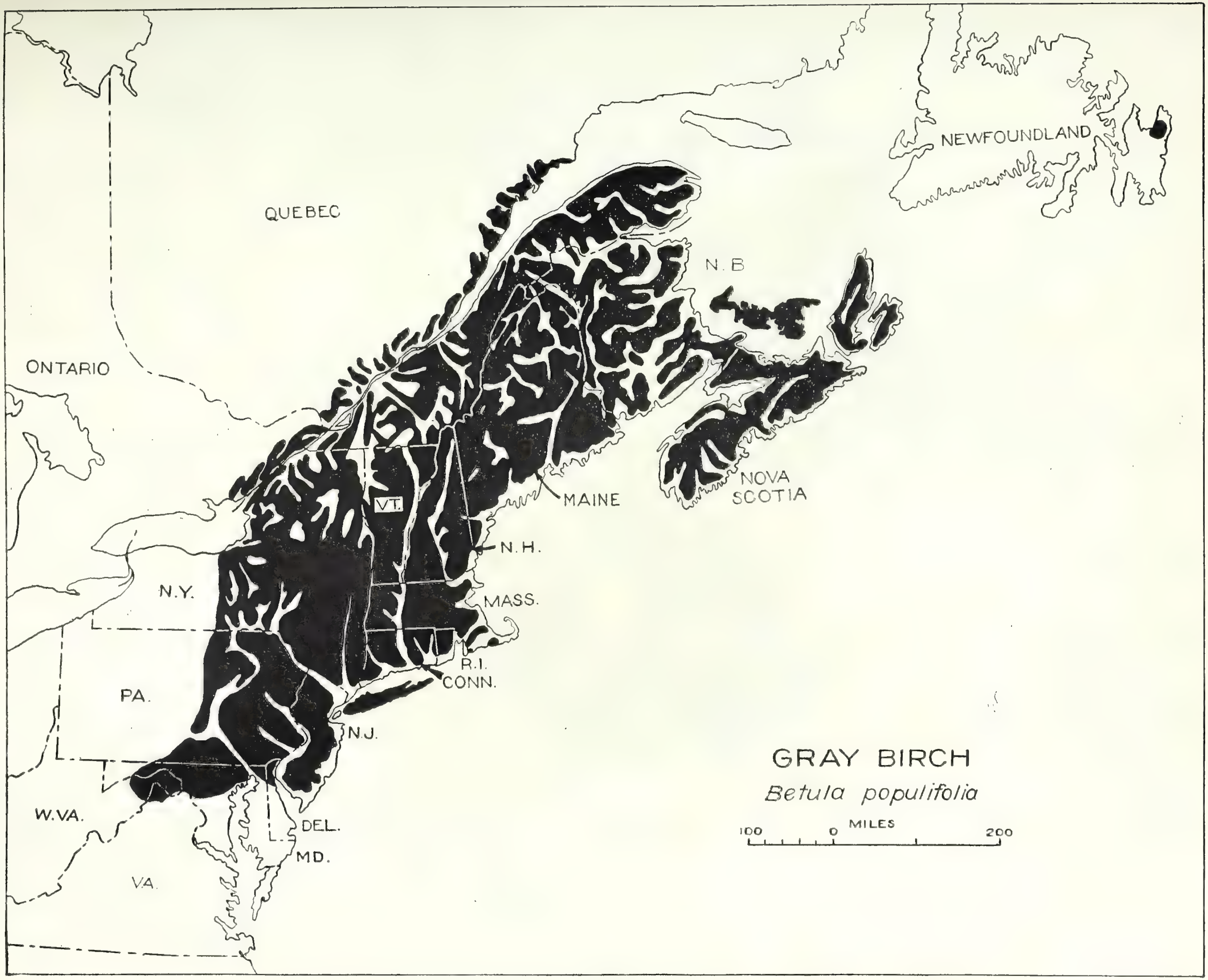
YELLOW BIRCH



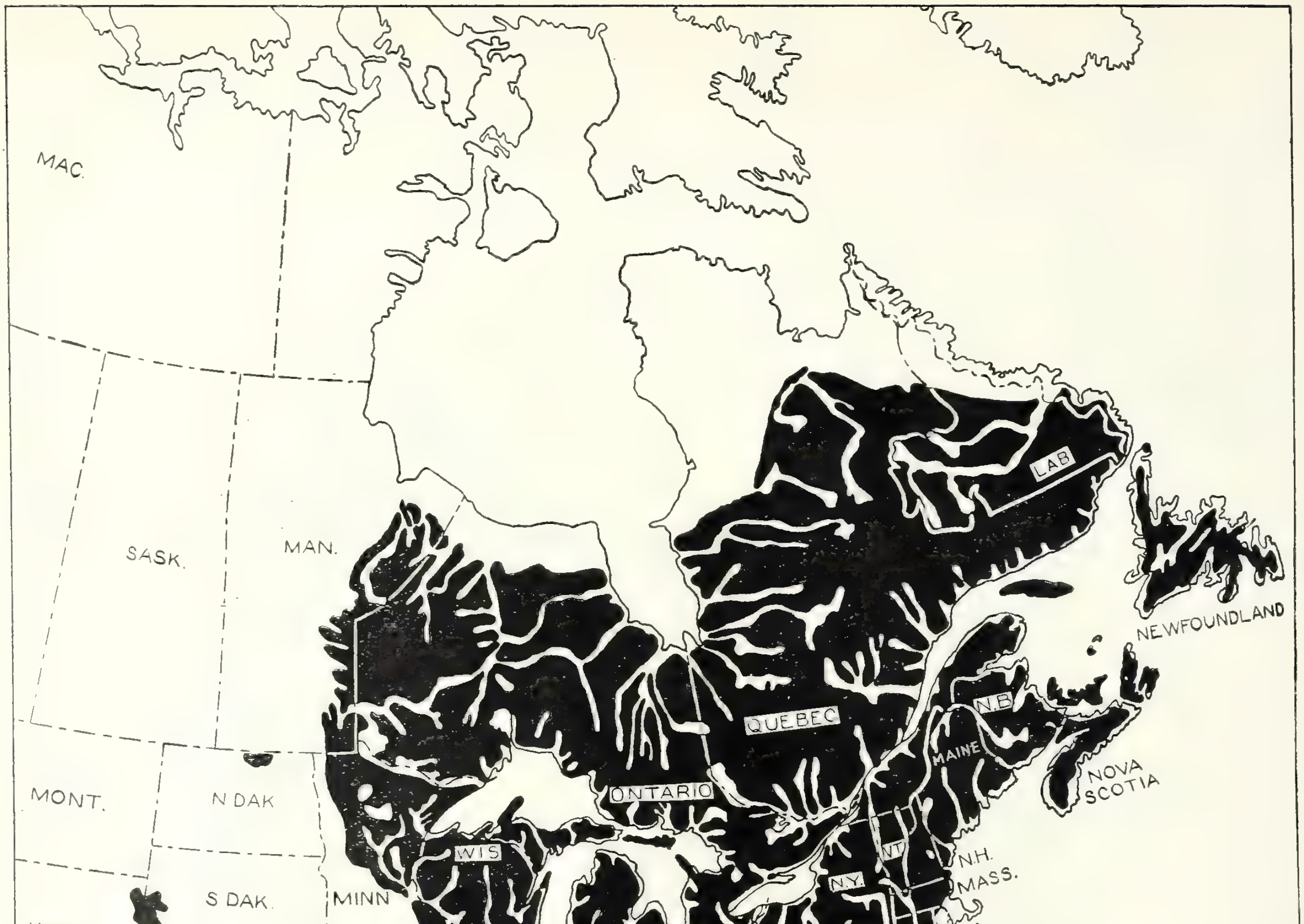
Map 82

BETULA NIGRA LINNAEUS

RIVER BIRCH

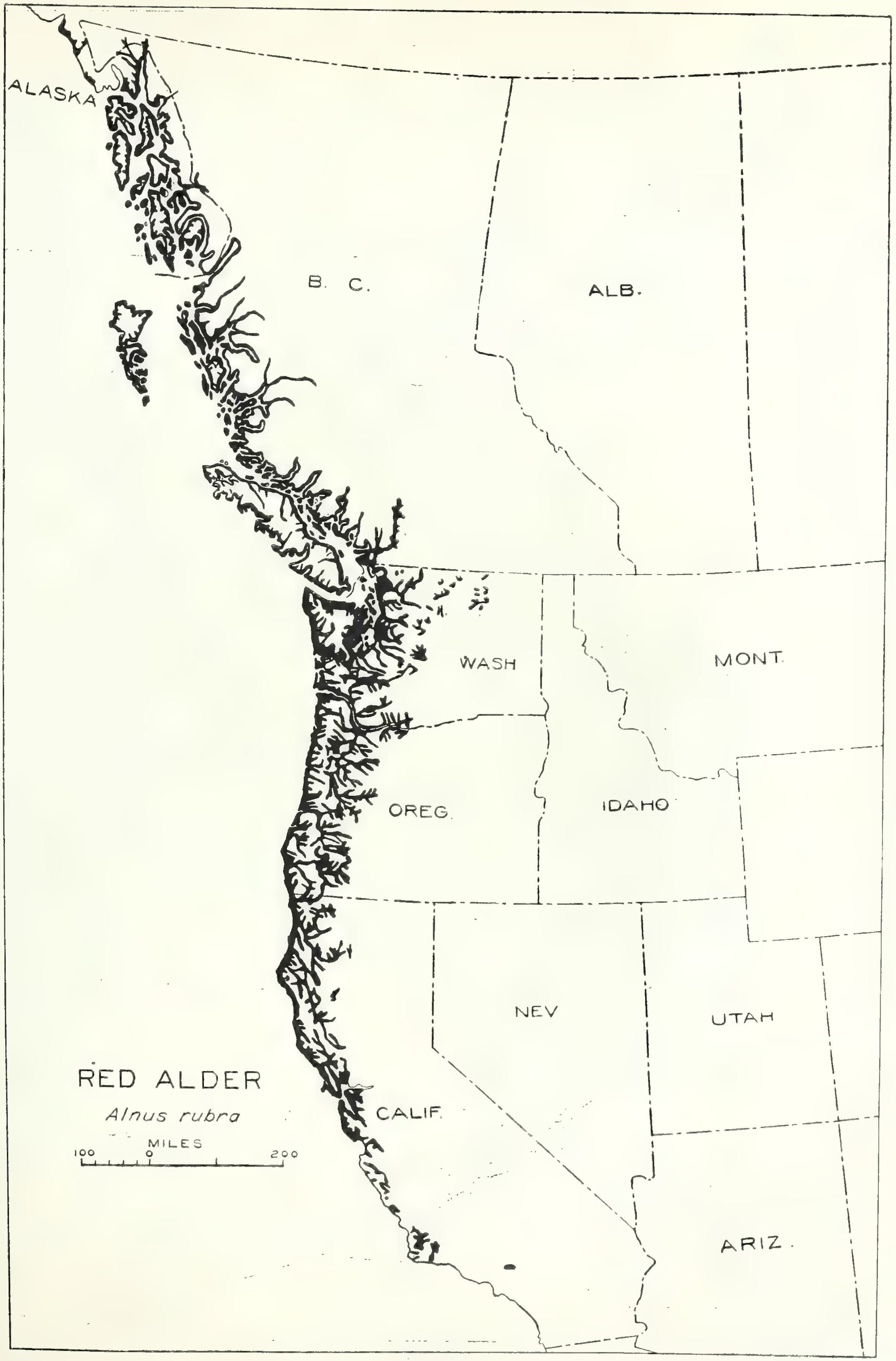

QUEBEC
NEWFOUNDLAND
ONTARIO
N. B
NOVA SCOTIA
MAINE
VT.
N. H.
MASS.
R.I.
CONN.
N.Y.
PA.
N.J.
DEL.
MD.
W.VA.
VA.
GRAY BIRCH
Betula populifolia
MILES
100
0
200

MAP 83



Map 84

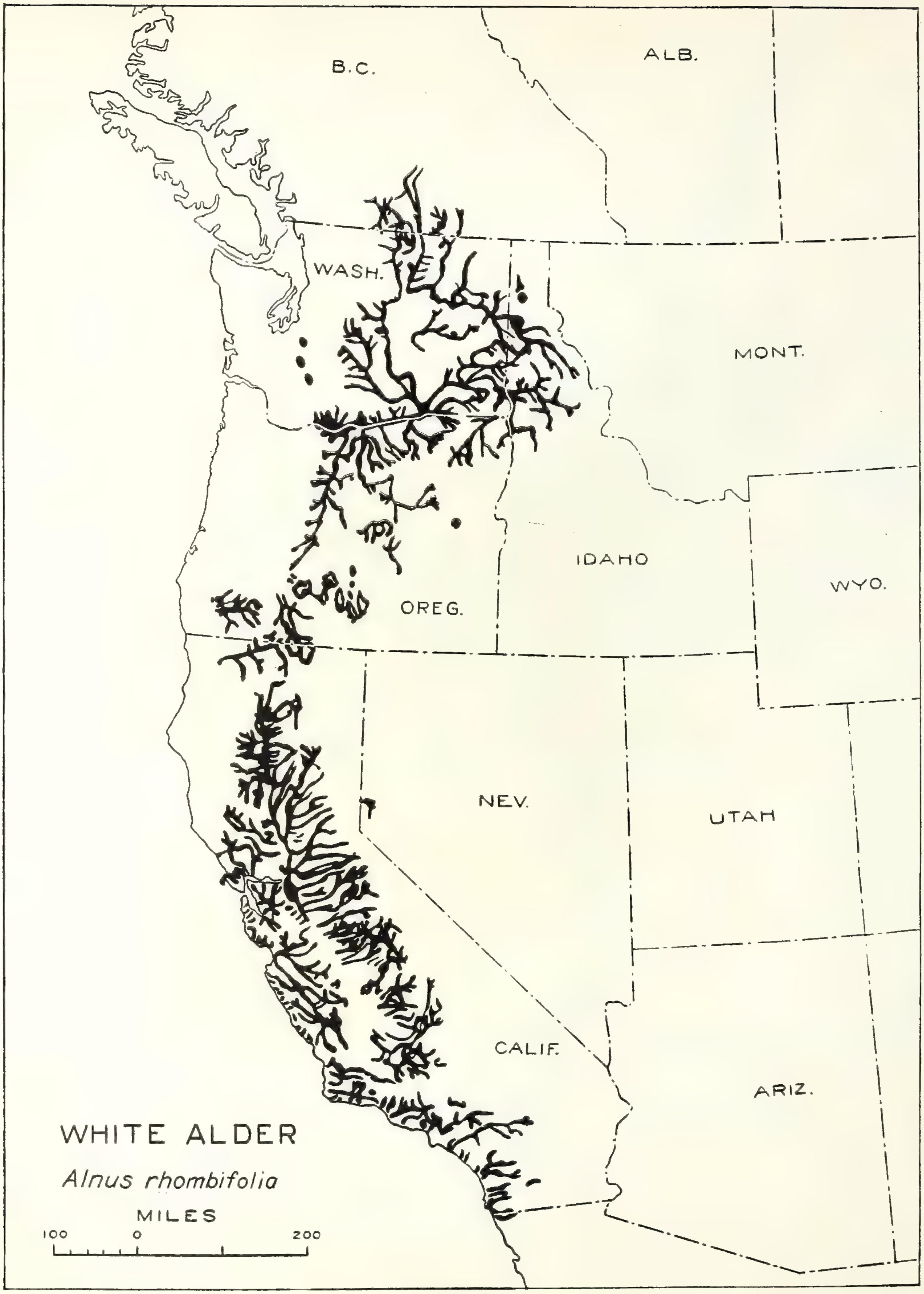
BETULA PAPYRIFERA MARSHALL PAPER BIRCH



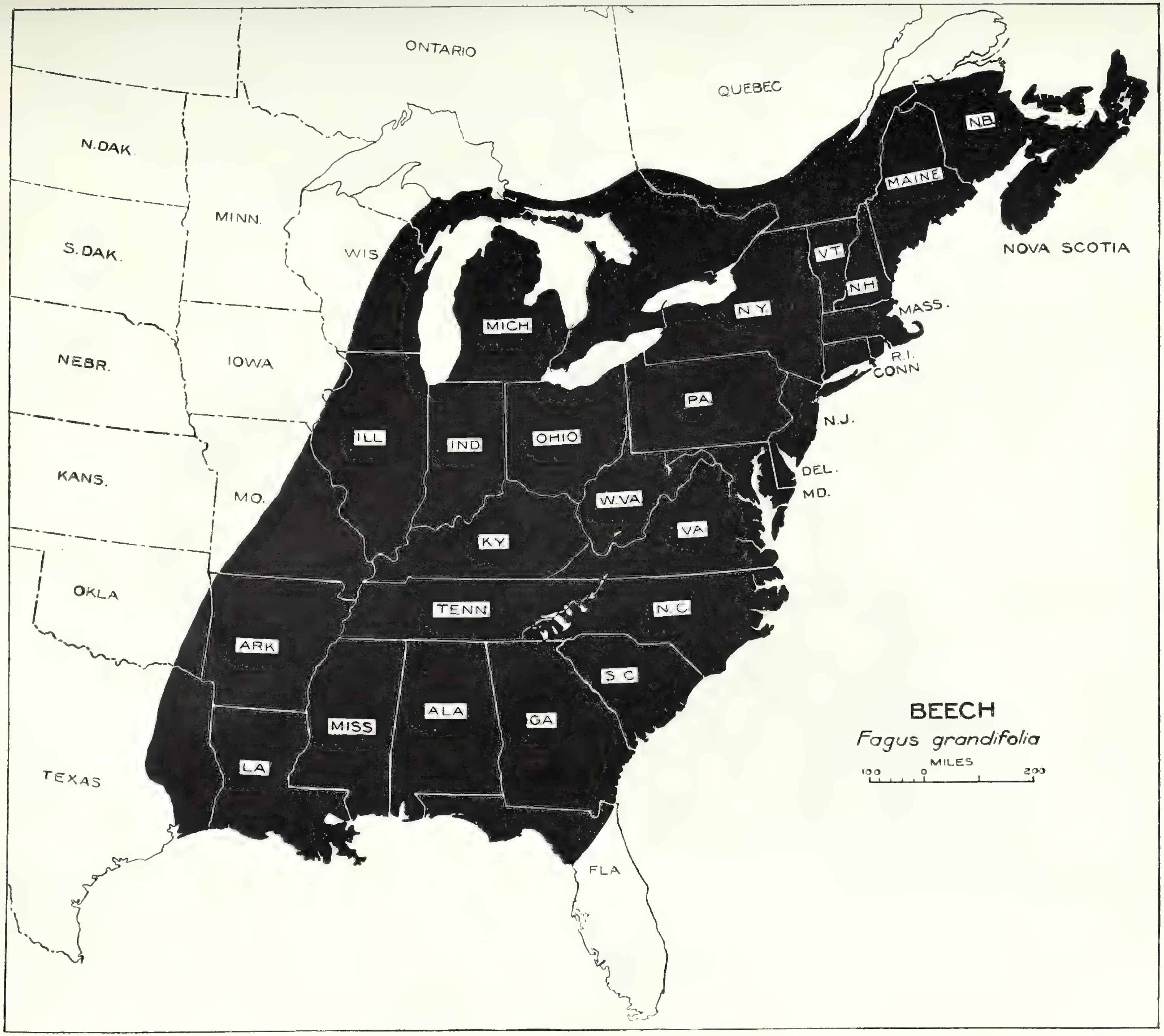
MAP 85

ALNUS RUBRA BONGARD

RED ALDER

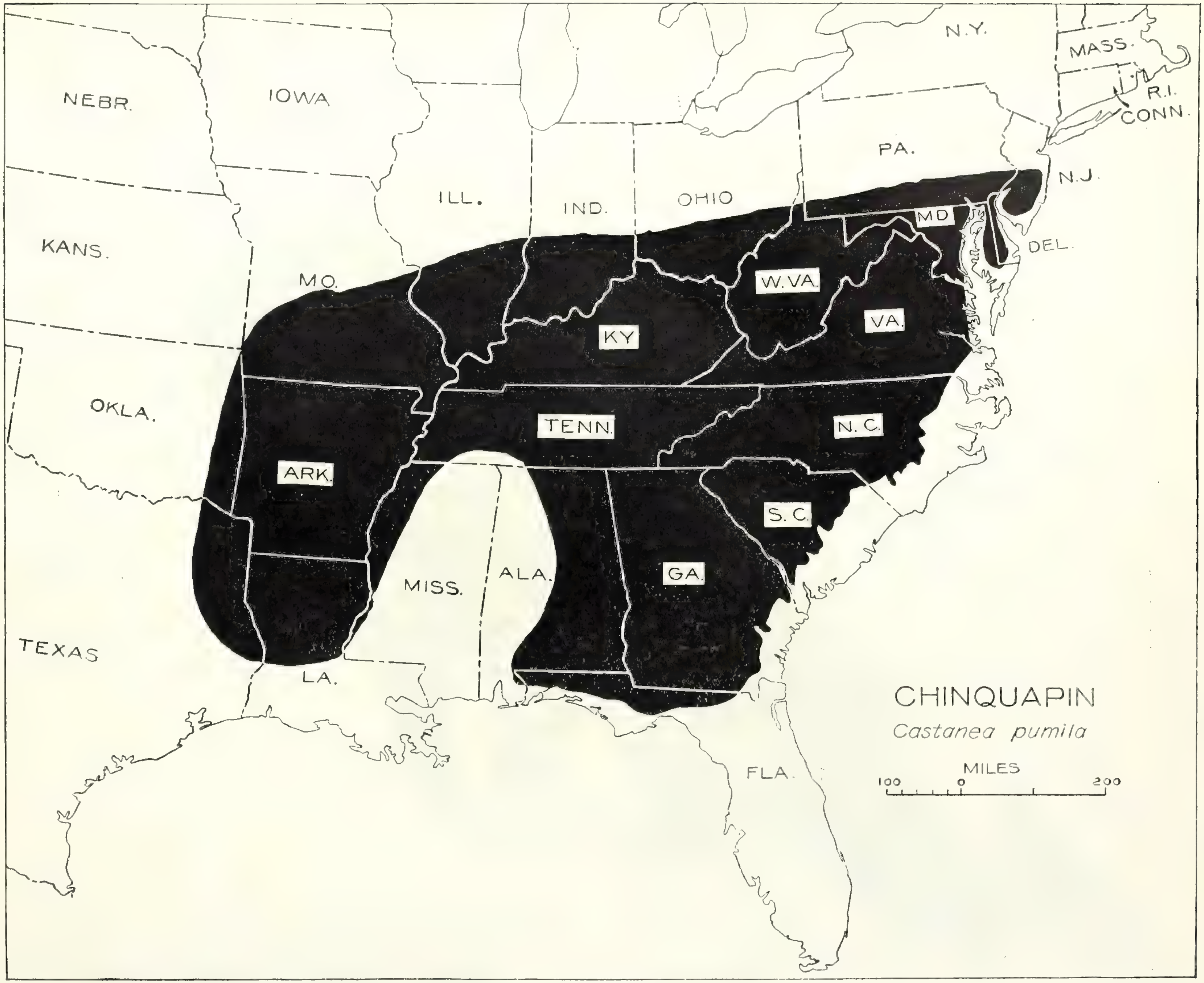

B.C.
ALB.
WASH.
MONT.
IDAHO
WYO.
OREG.
NEV.
UTAH
CALIF.
ARIZ.
WHITE ALDER
Alnus rhombifolia
MILES
100
0
200

Map 86



Map 87

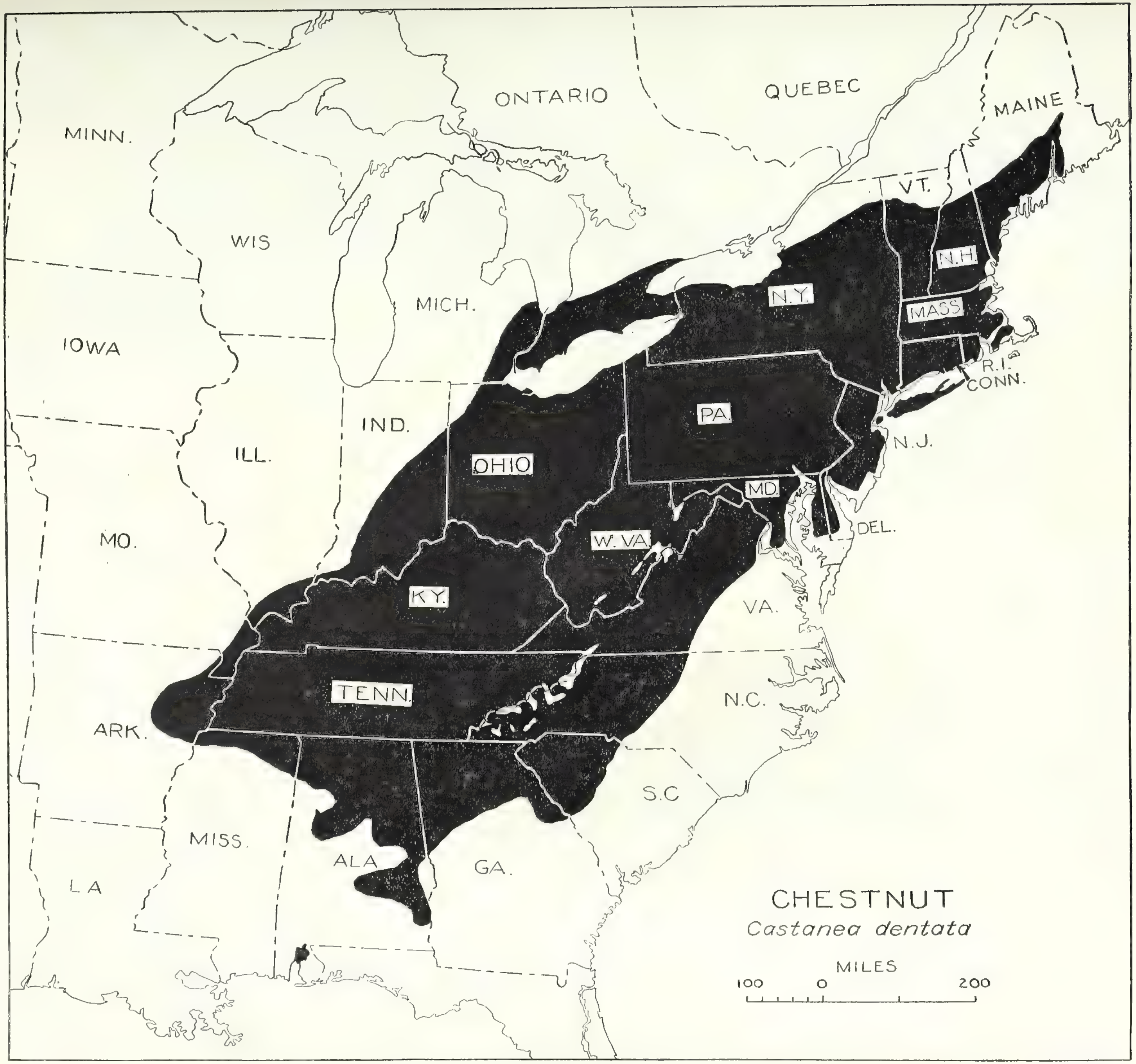
FAGUS GRANDIFOLIA EHRHART BEECH



Map 88

CASTANEA PUMILA (LINNAEUS) MILLER

CHINQUAPIN

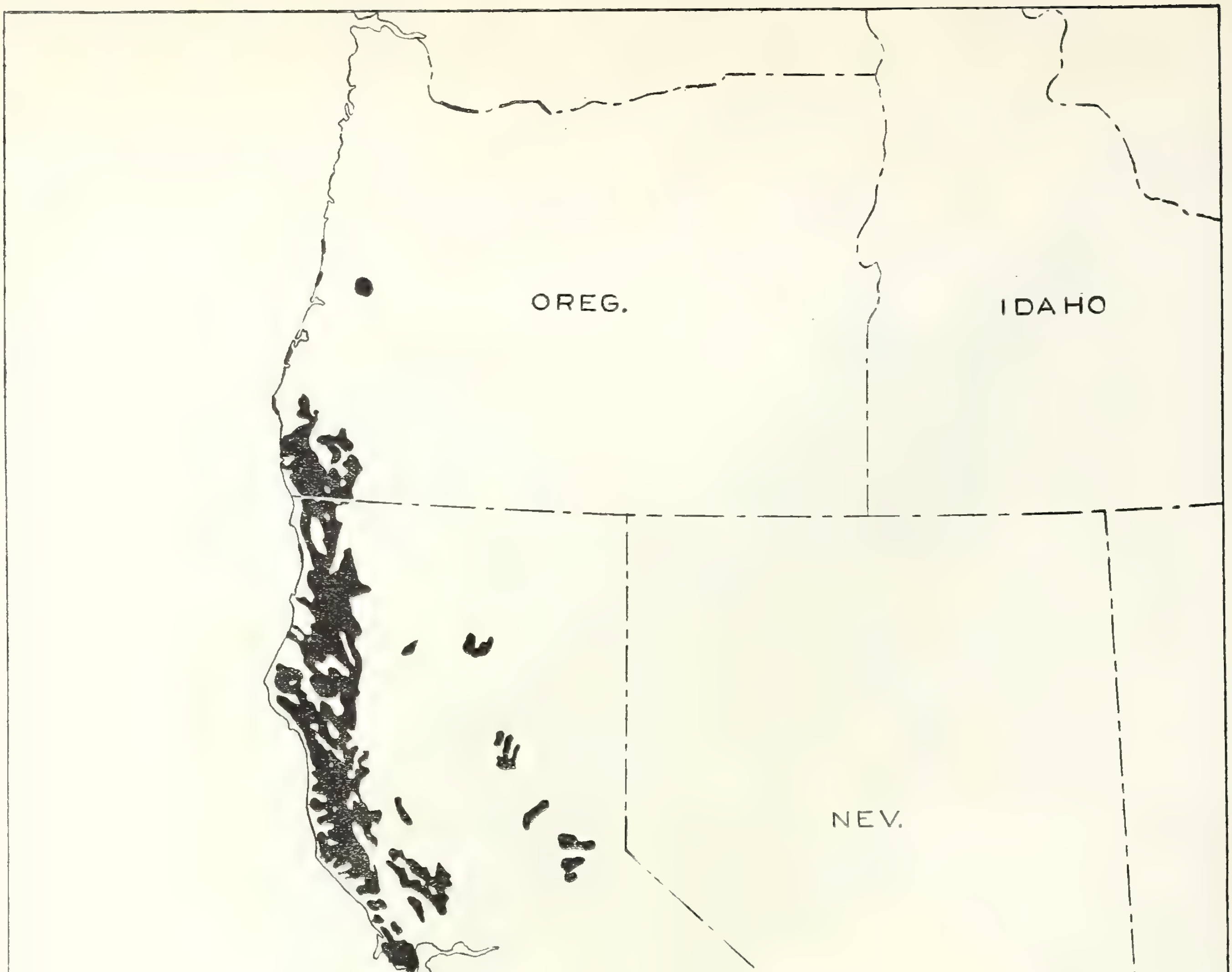


CHESTNUT
Castanea dentata

MAP 89

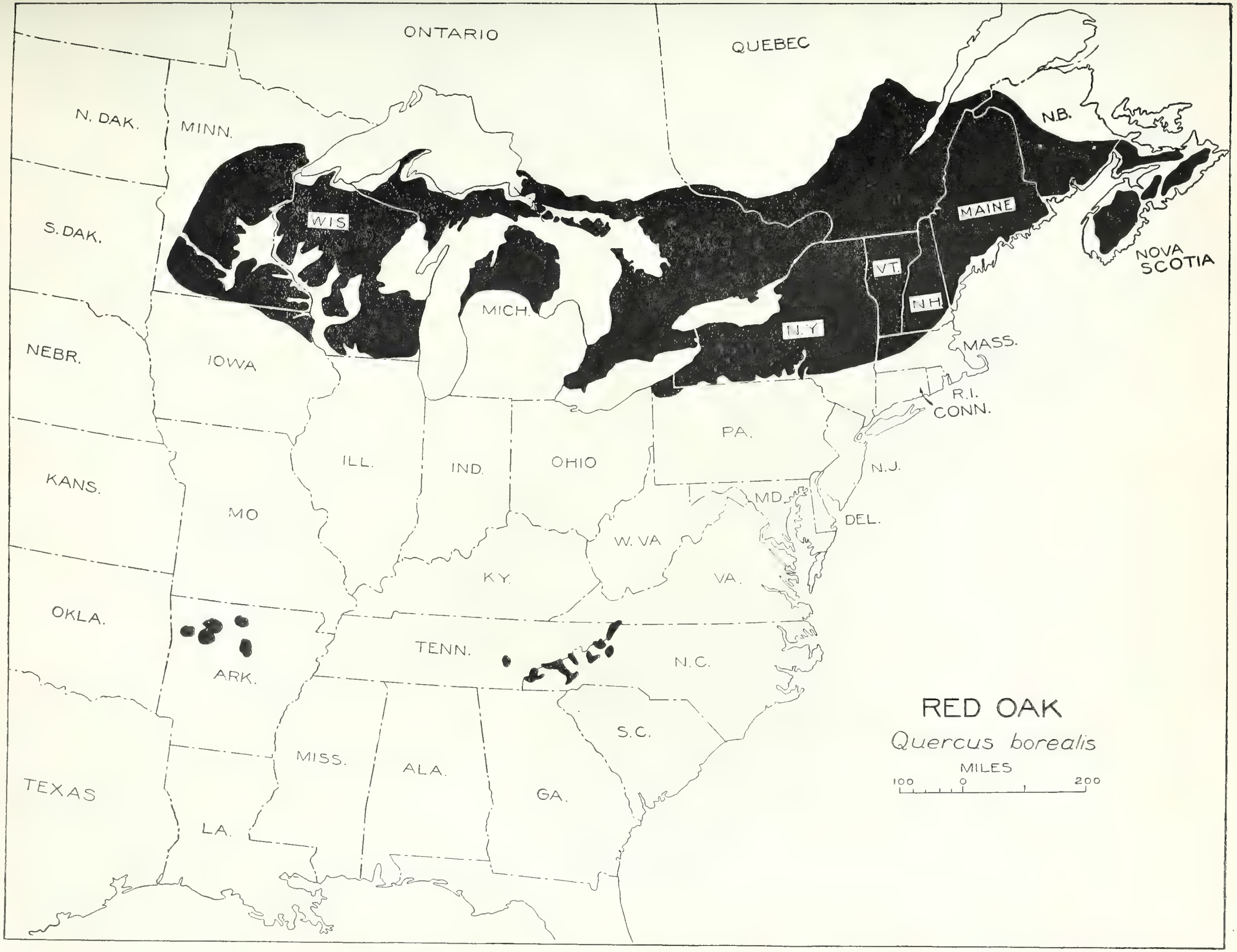
CASTANEA DENTATA (MARSHALL) BORKHAUSEN

CHESTNUT



Map 90

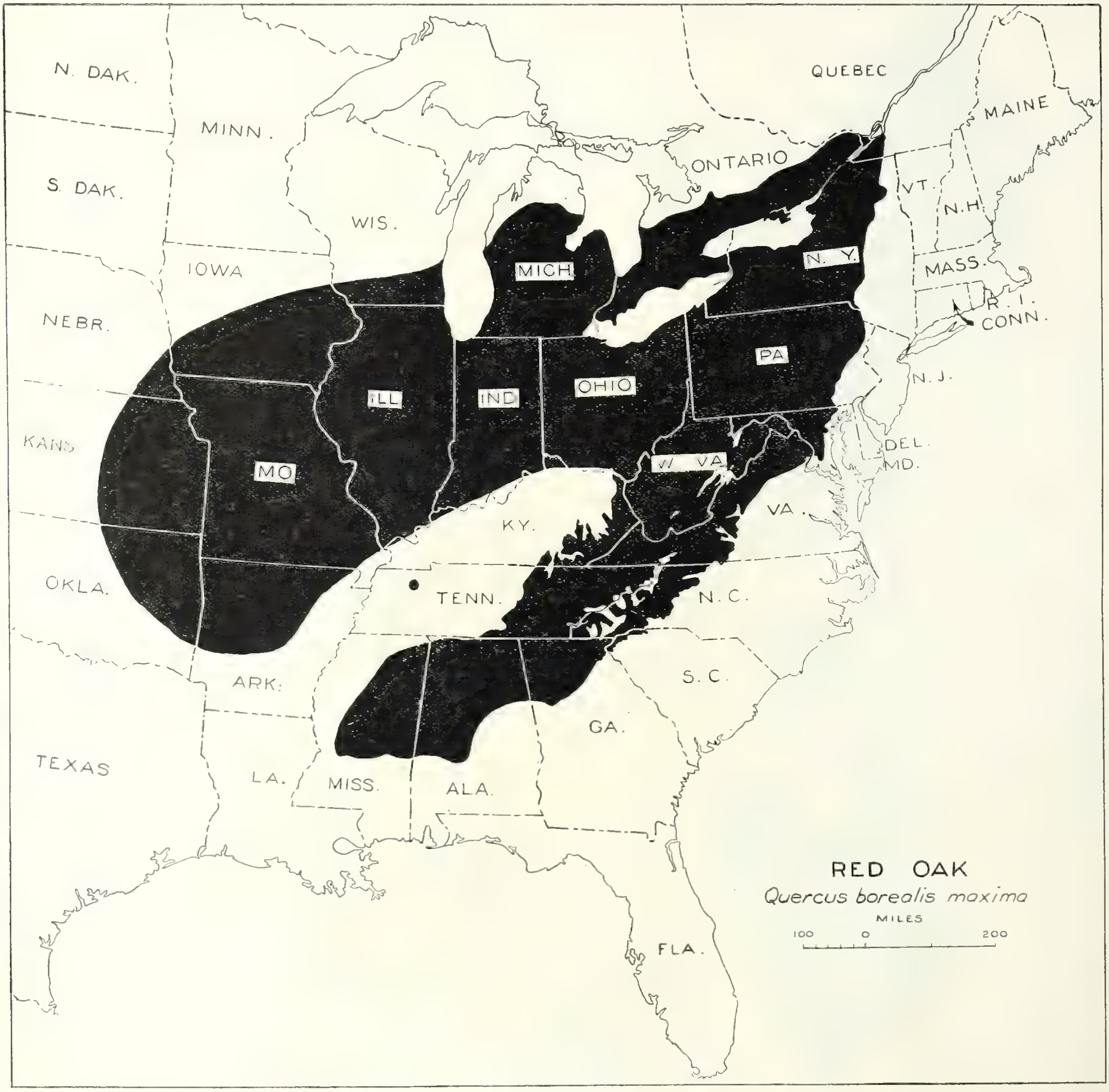
LITHOCARPUS DENSIFLORA (HOOKER AND ARNOTT) REHDER TANOAK



Map 91

QUERCUS BOREALIS MICHAUX FILIUS

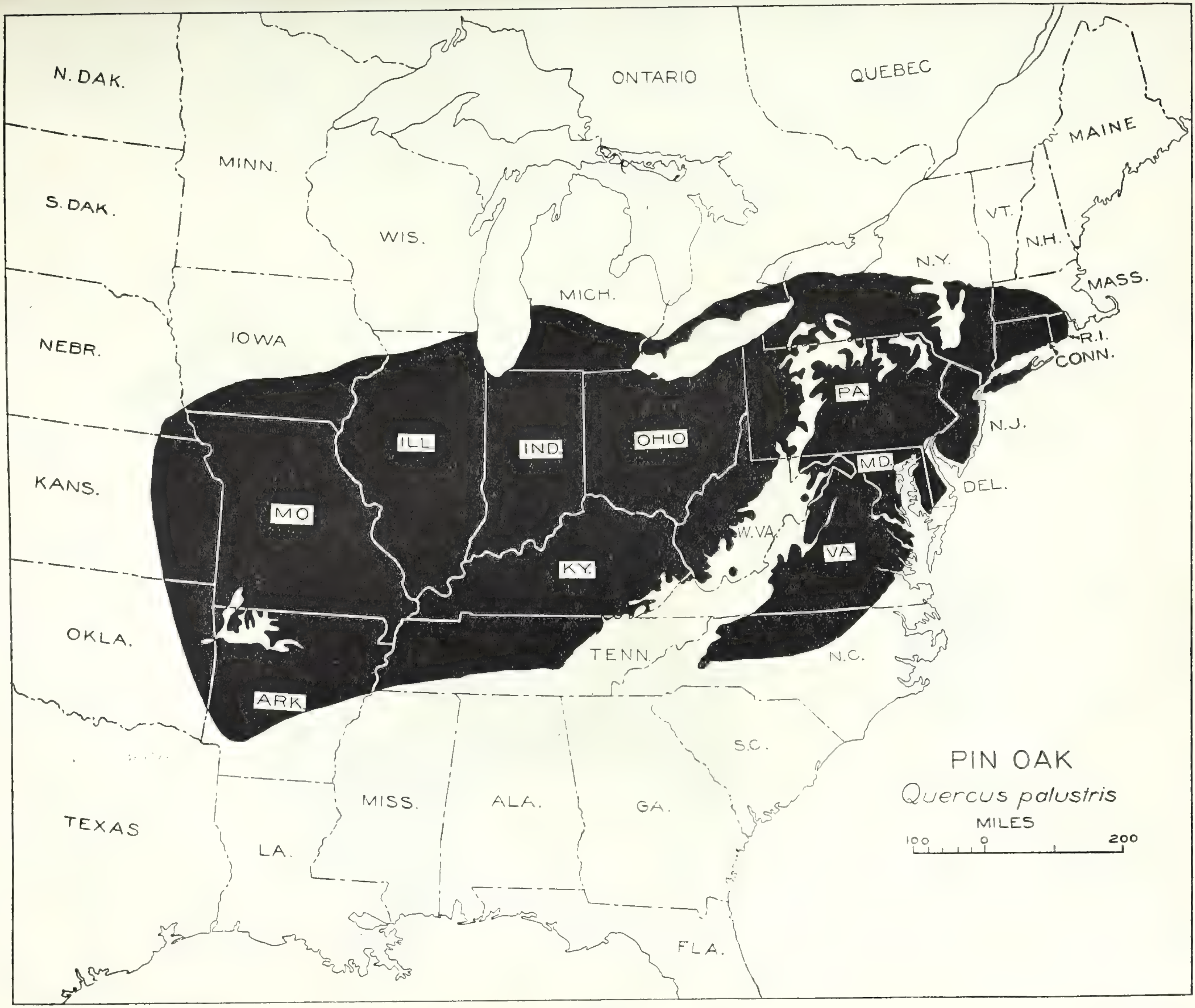
RED OAK



Map 92

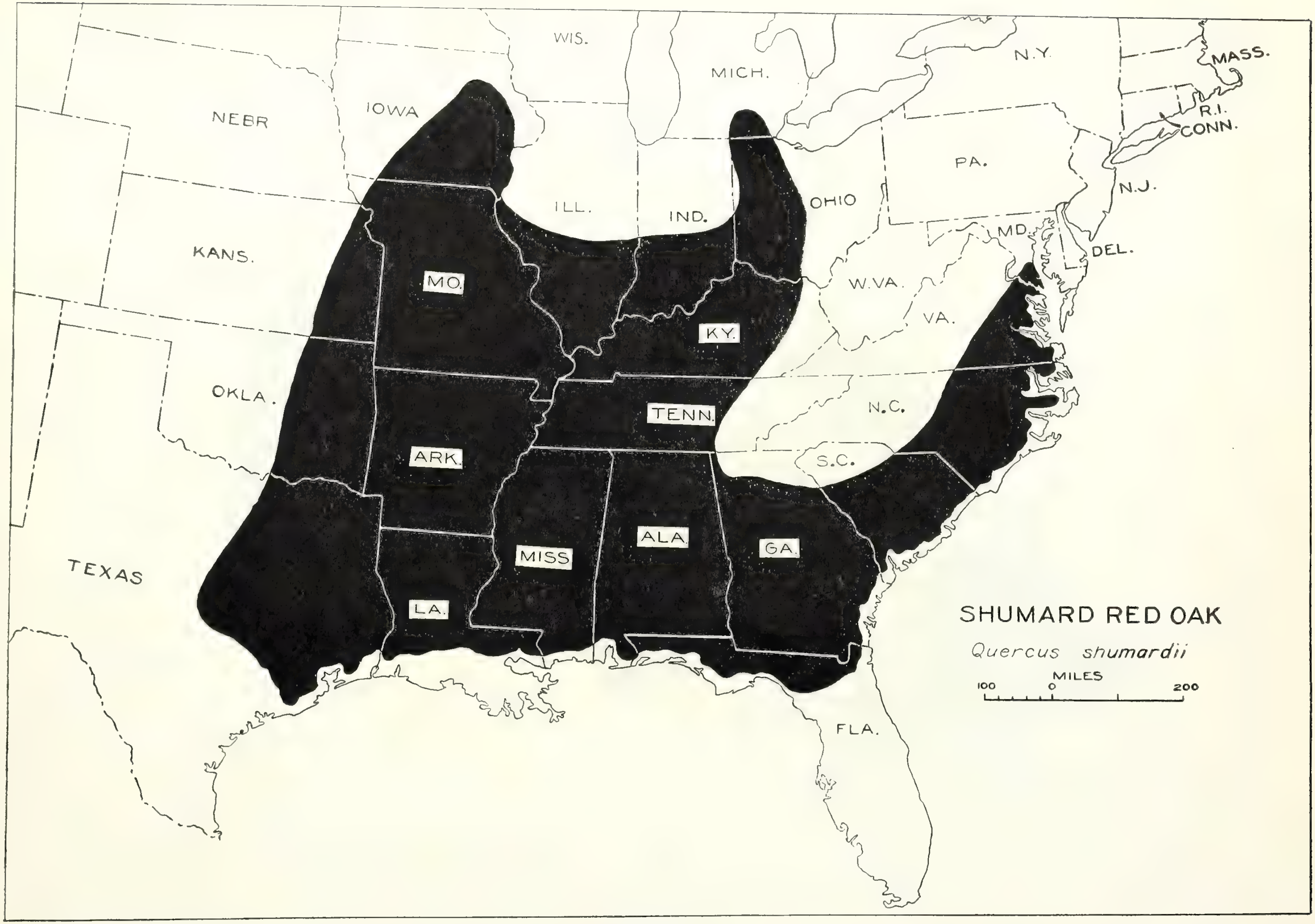
QUERCUS BOREALIS MAXIMA (MARSHALL) ASHE

RED OAK



Map 93

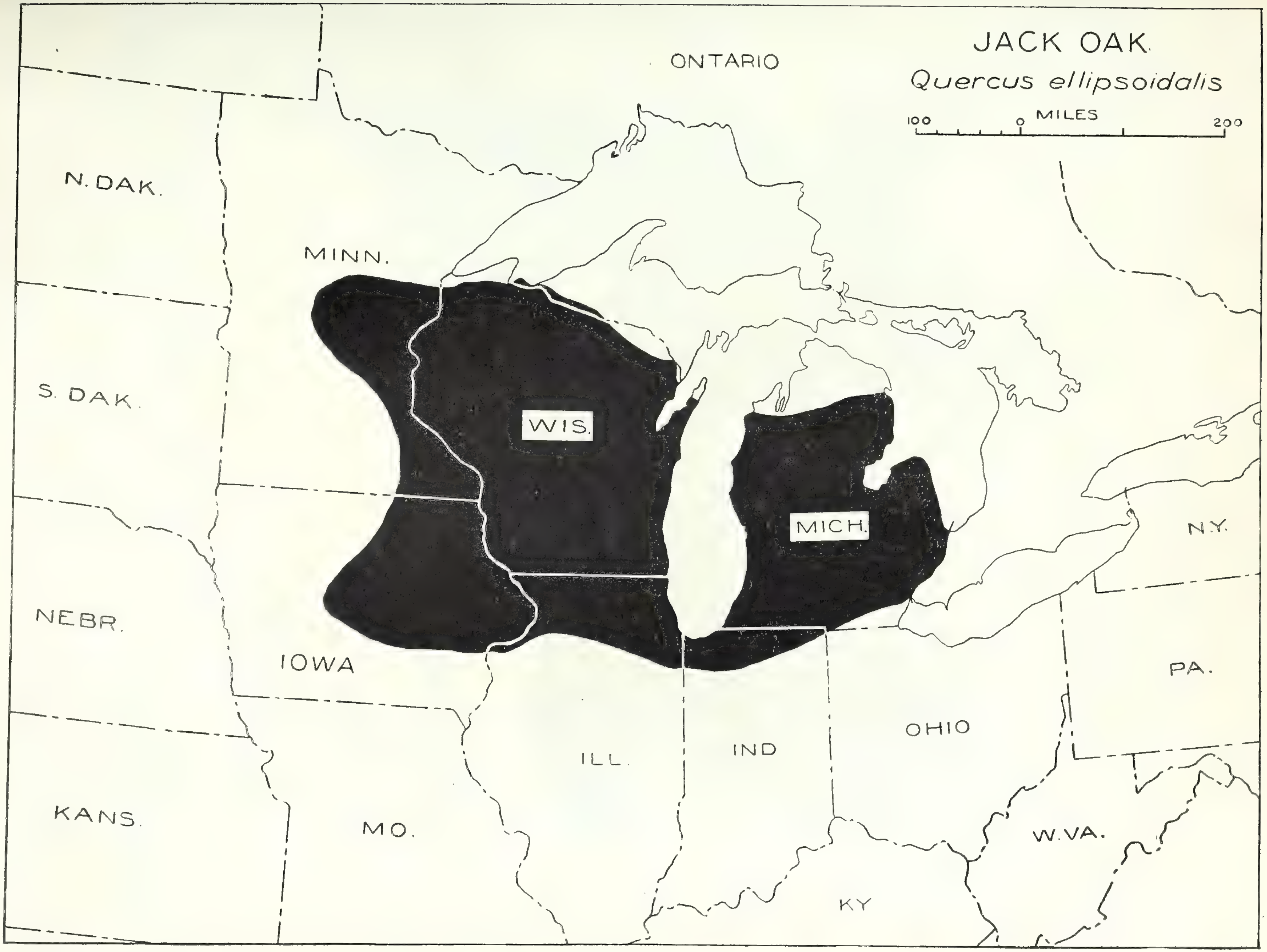
QUERCUS PALUSTRIS MUENCHHAUSEN PIN OAK



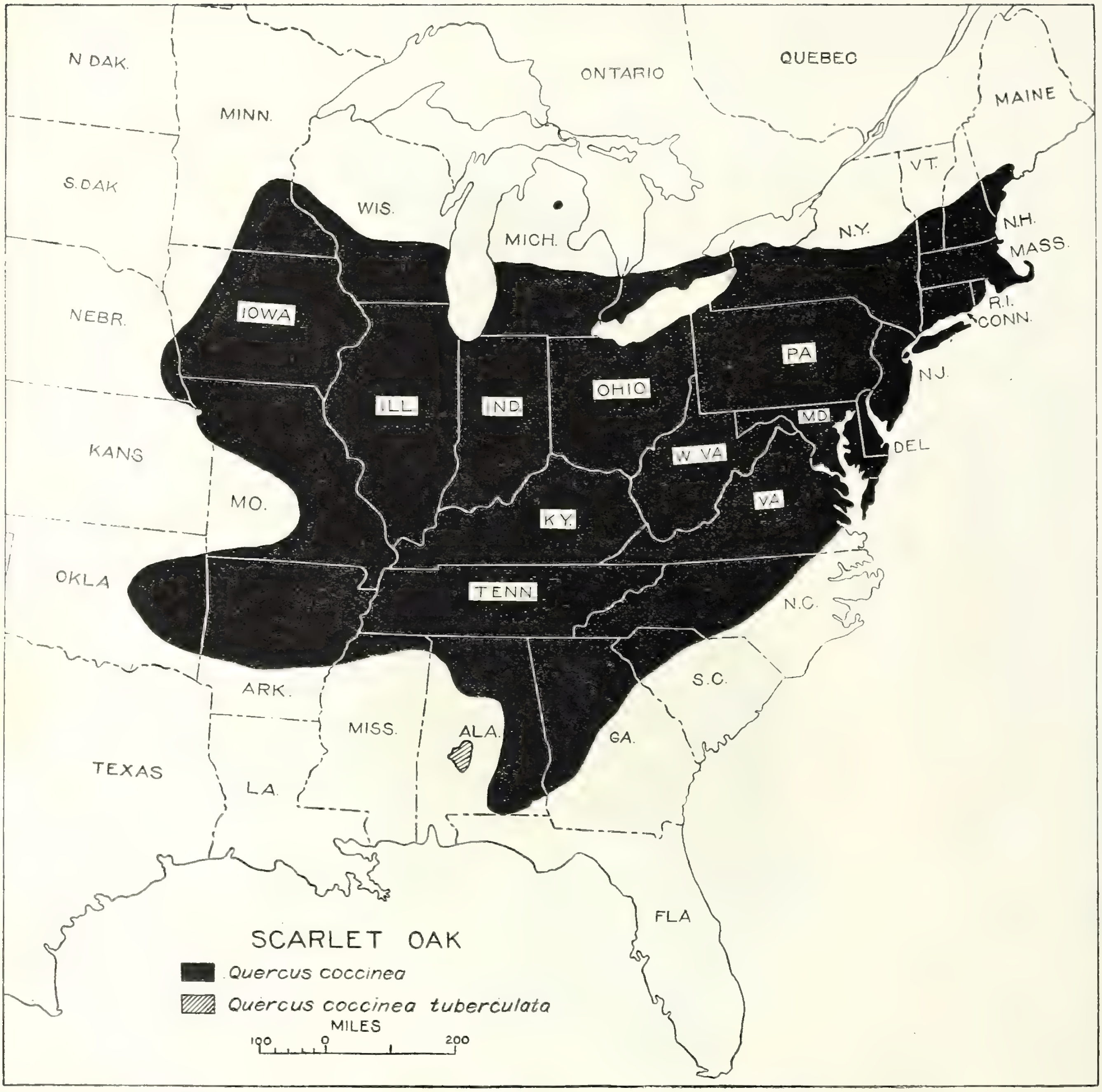
Map 94

QUERCUS SHUMARDII BUCKLEY

SHUMARD RED OAK

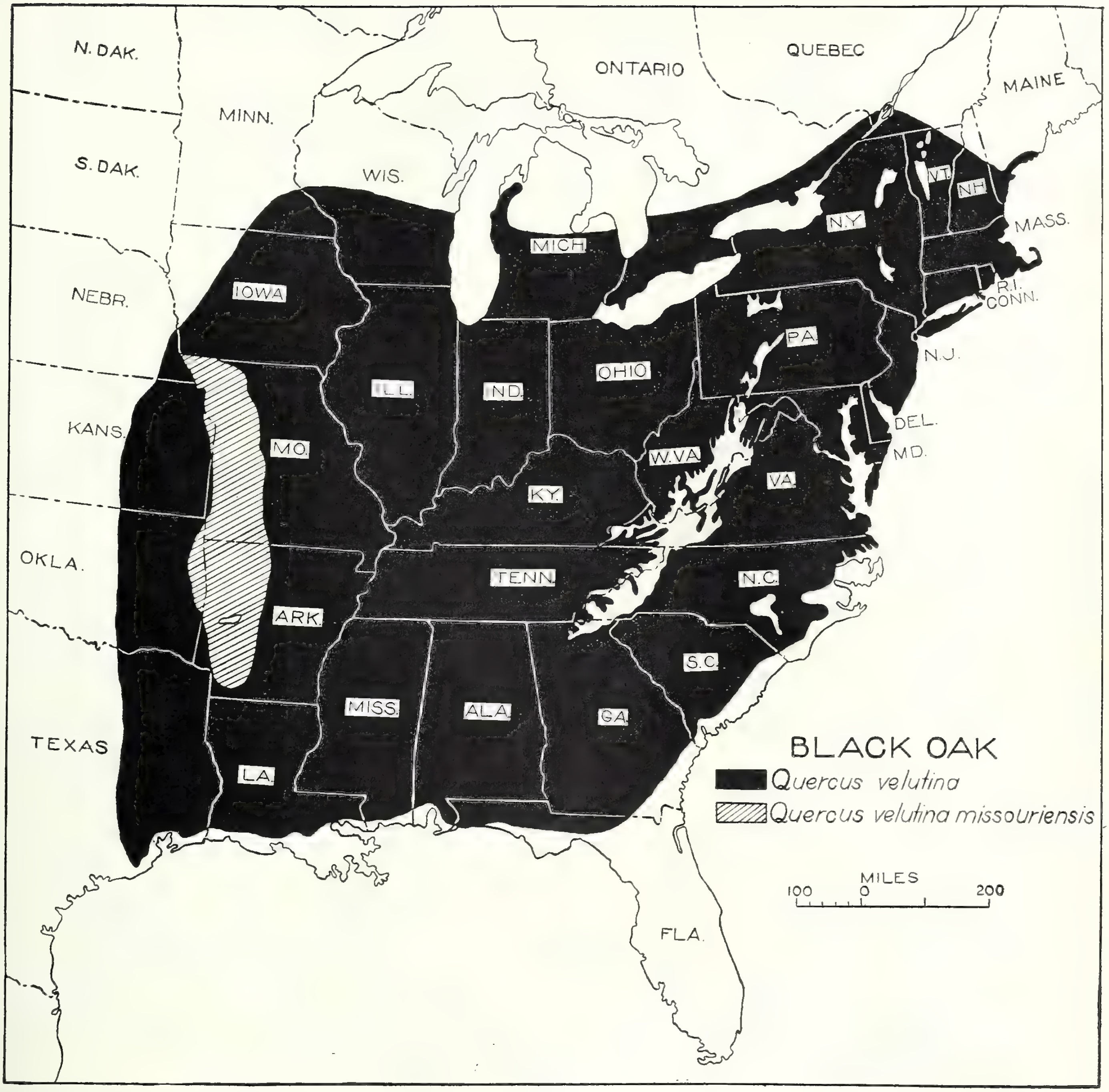


QUERCUS ELLIPSOIDALIS E. J. HILL — MAP 95 — JACK OAK



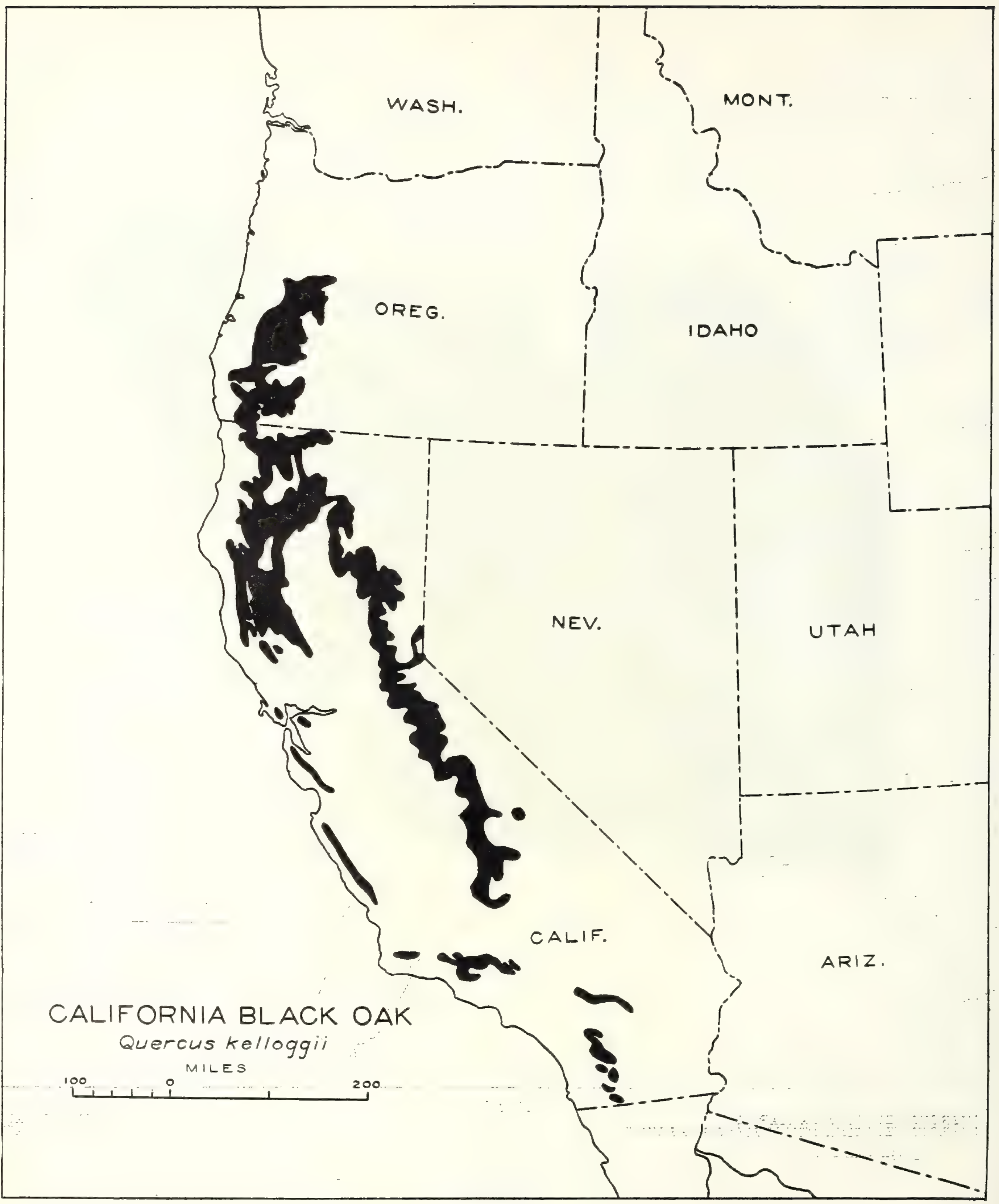
MAP 96

QUERCUS COCCINEA MUENCHHAUSEN — SCARLET OAK
QUERCUS COCCINEA TUBERCULATA SARGENT — SCARLET OAK

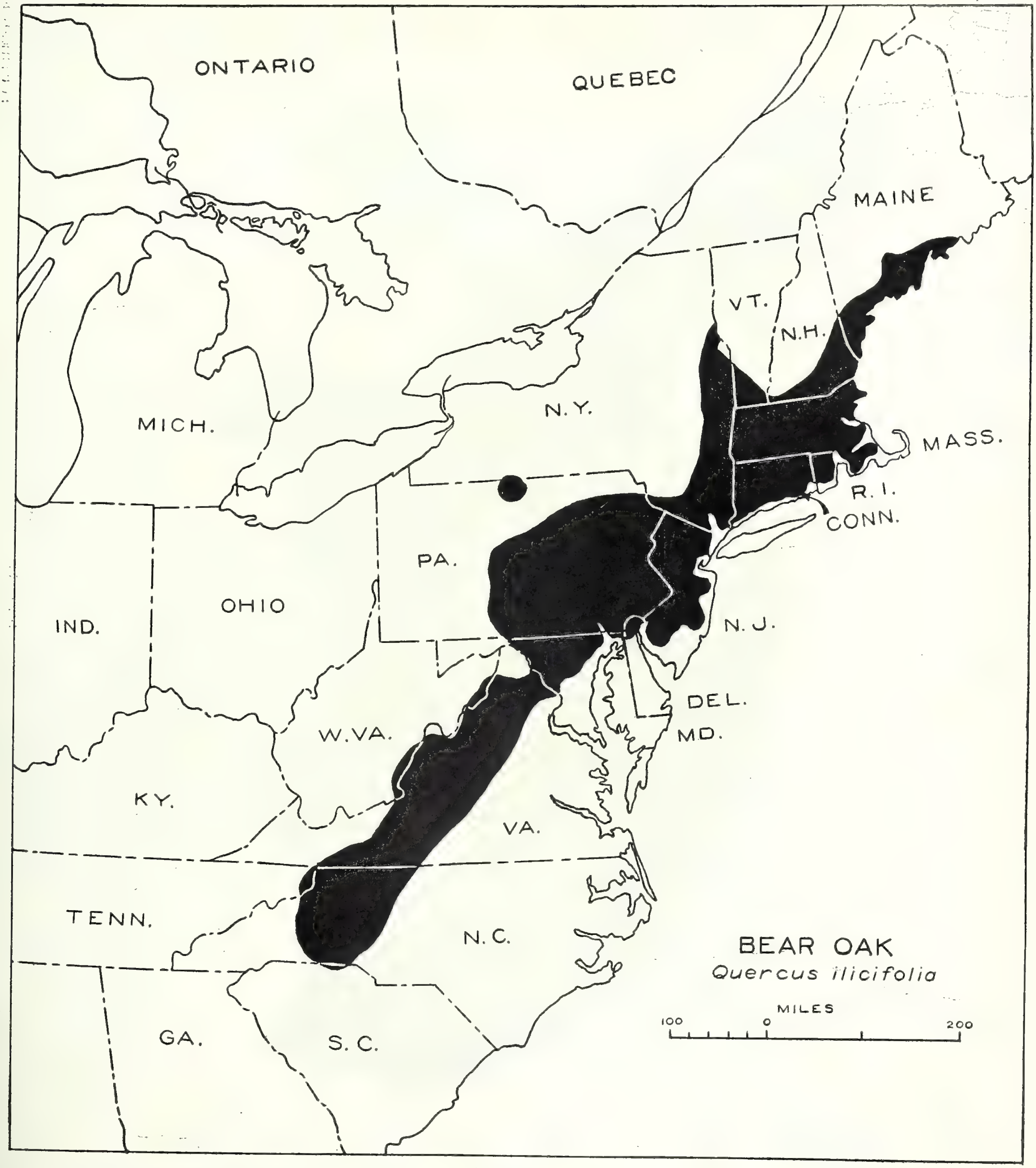


Map 97

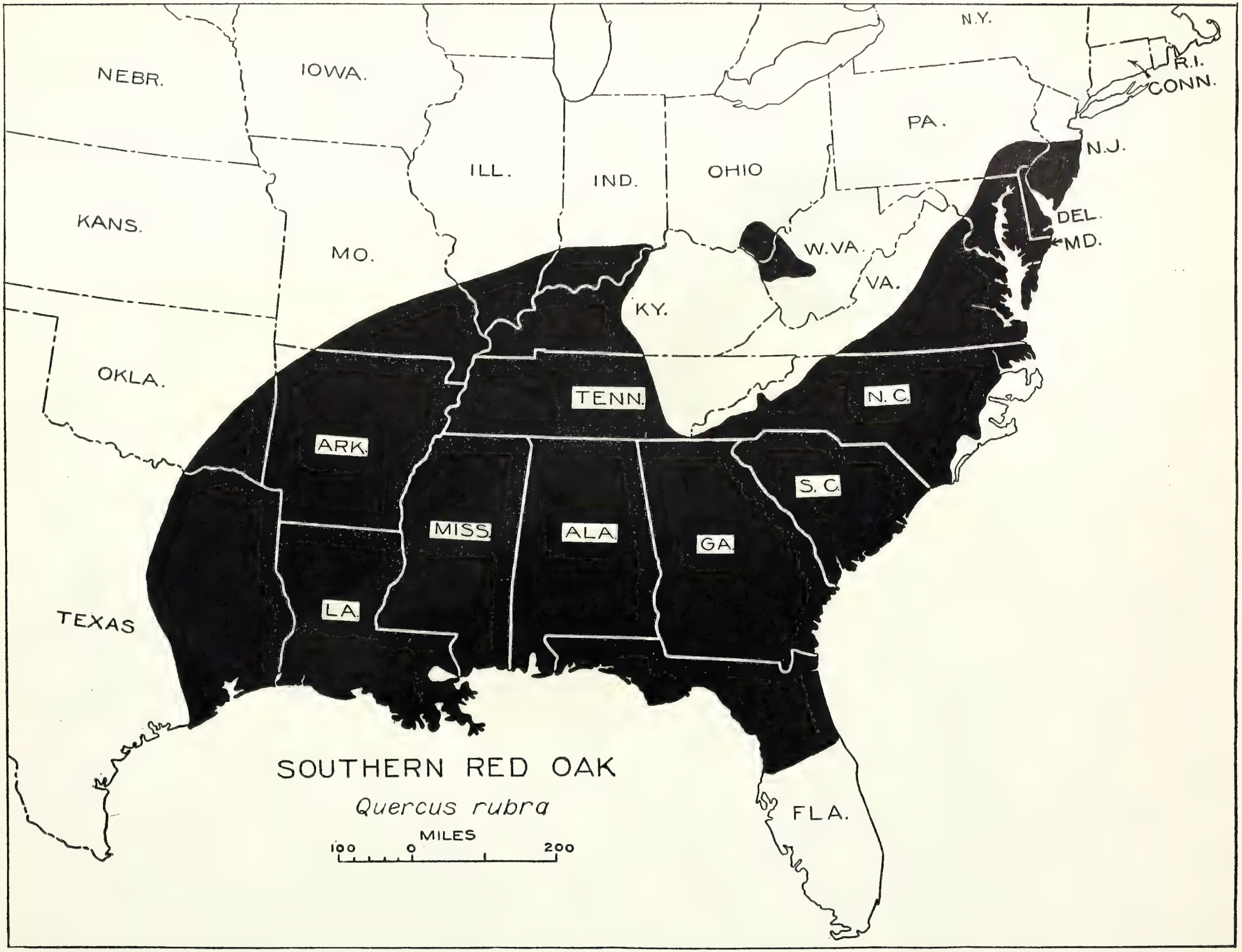
QUERCUS VELUTINA LA MARCK	BLACK OAK
QUERCUS VELUTINA MISSOURIENSIS SARGENT	BLACK OAK



QUERCUS KELLOGGII NEWBERRY Map 98 CALIFORNIA BLACK OAK



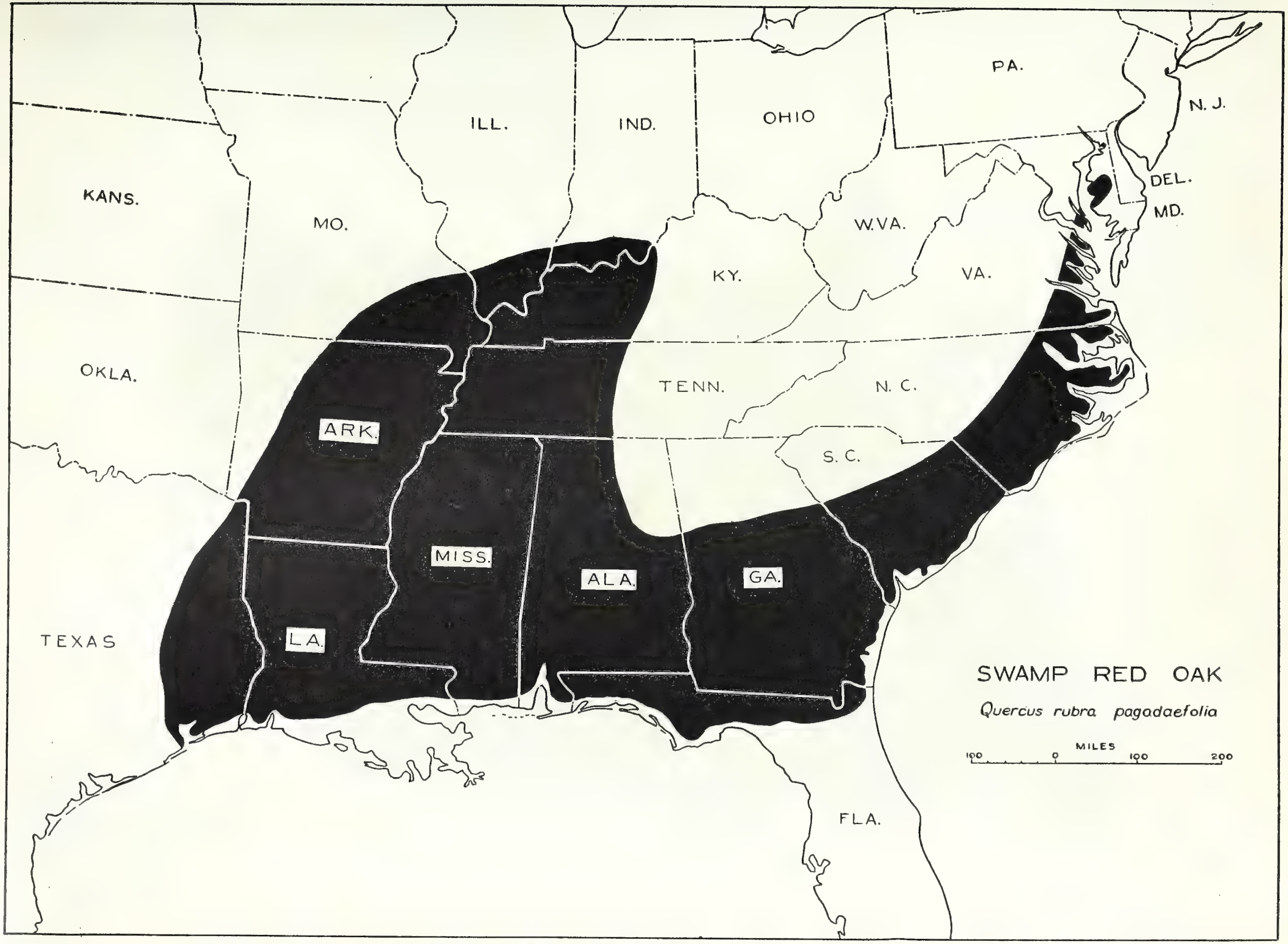
QUERCUS ILICIFOLIA WANGENHEIM Map 99 BEAR OAK



Map 100

QUERCUS RUBRA LINNAEUS

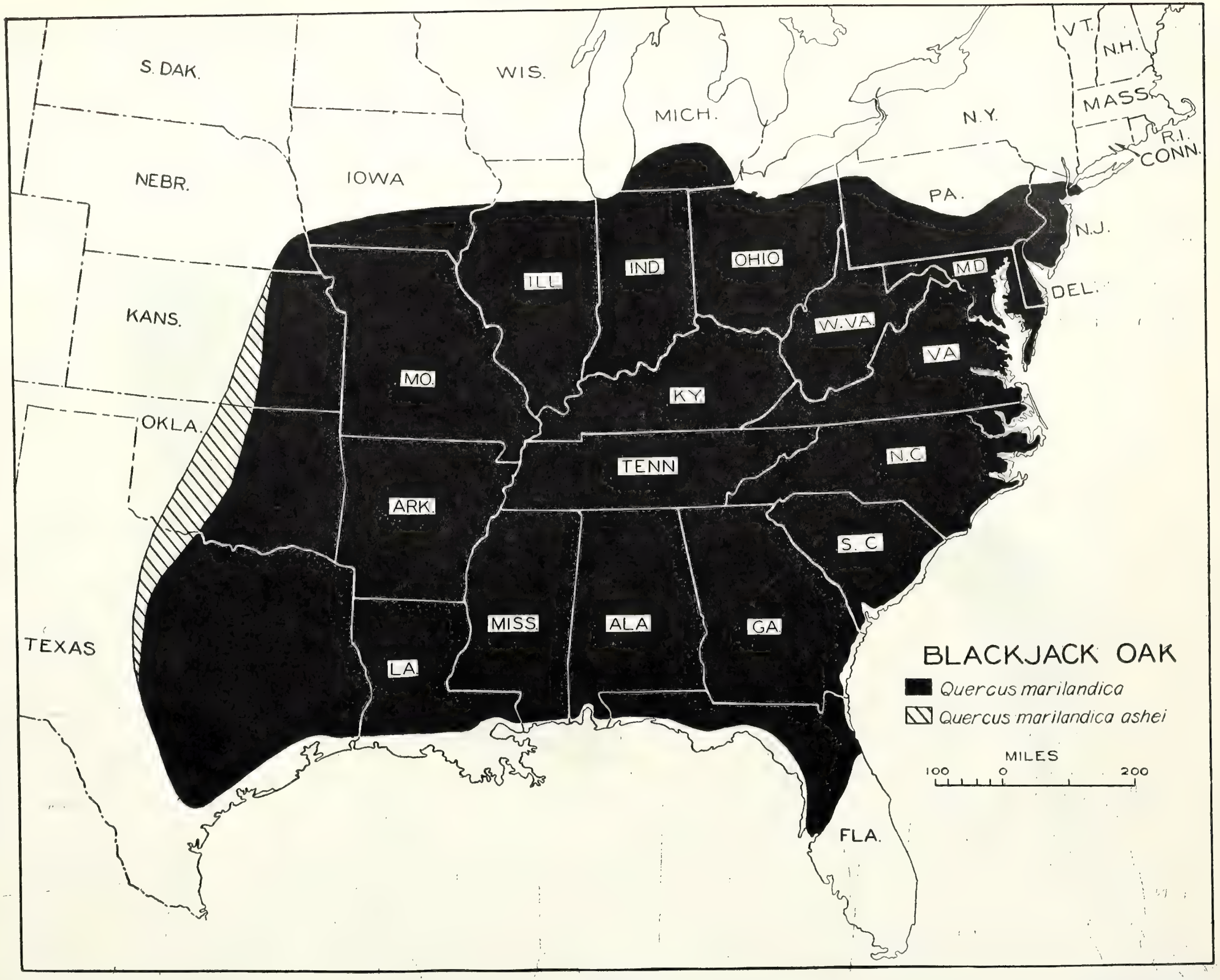
SOUTHERN RED OAK



Map 101

QUERCUS RUBRA PAGODAEFOLIA (ELLIOTT) ASHE

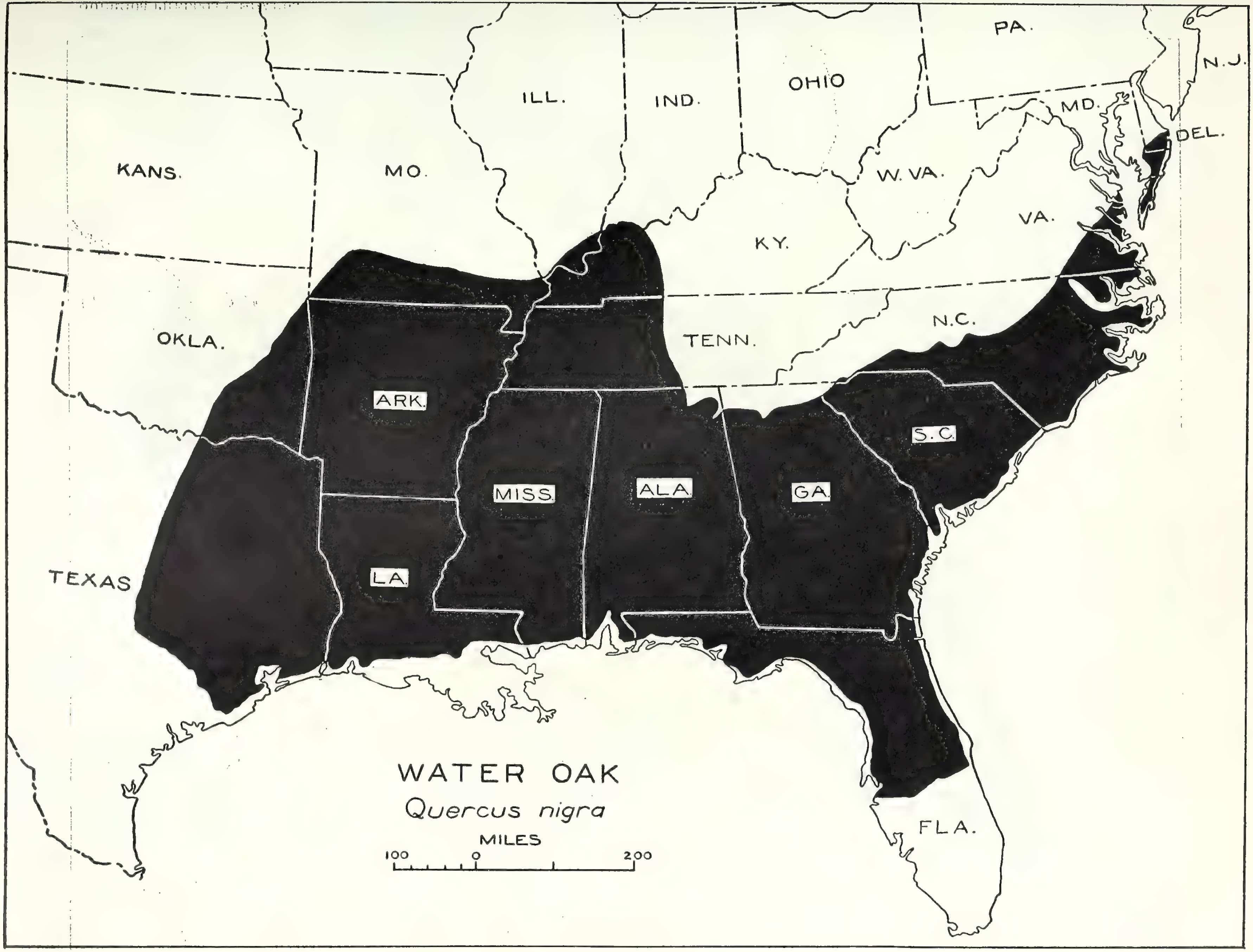
SWAMP RED OAK



Map 102

QUERCUS MARILANDICA MUENCHHAUSEN
QUERCUS MARILANDICA ASHEI SUDWORTH

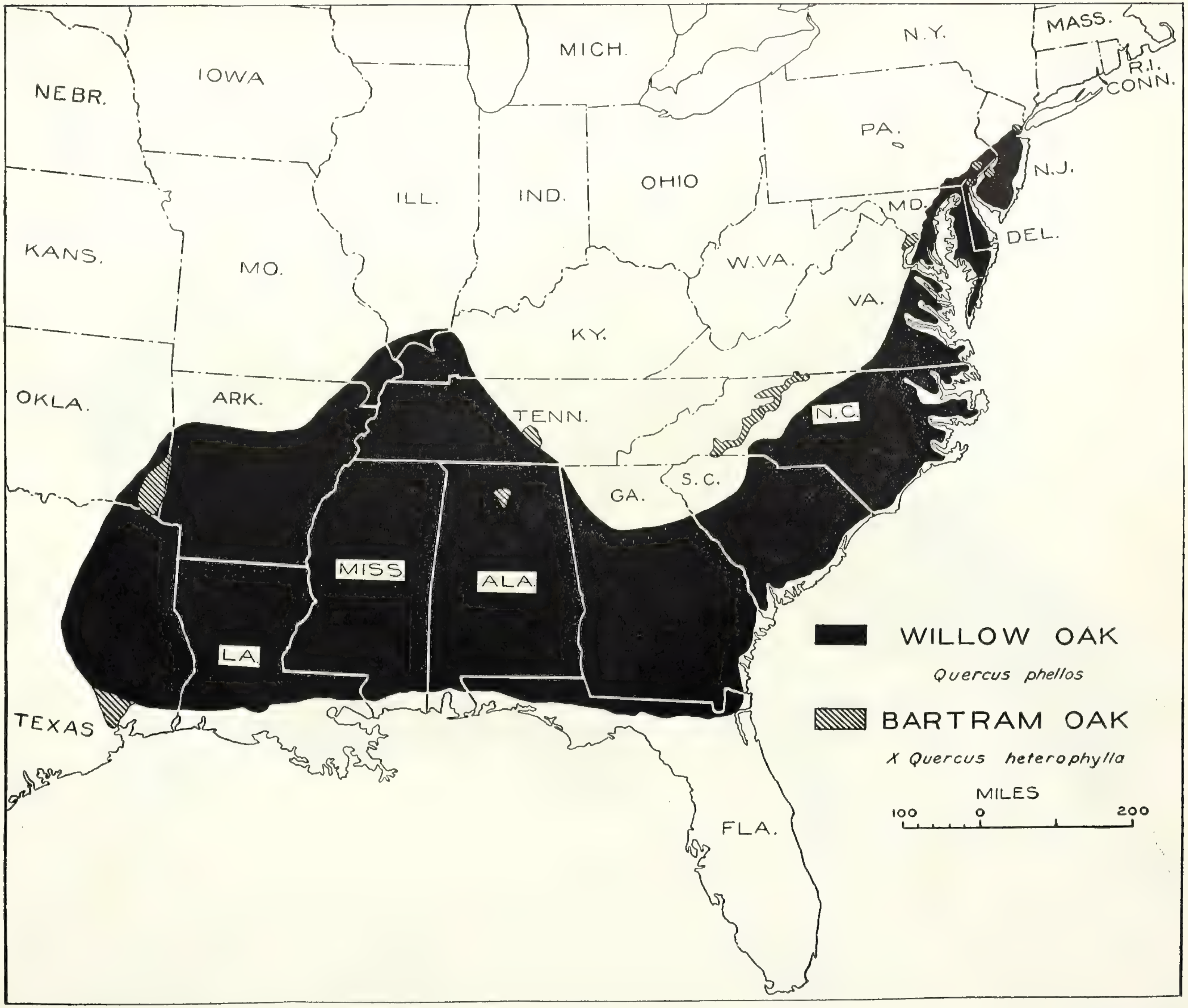
BLACKJACK OAK
BLACKJACK OAK



Map 103

QUERCUS NIGRA LINNAEUS

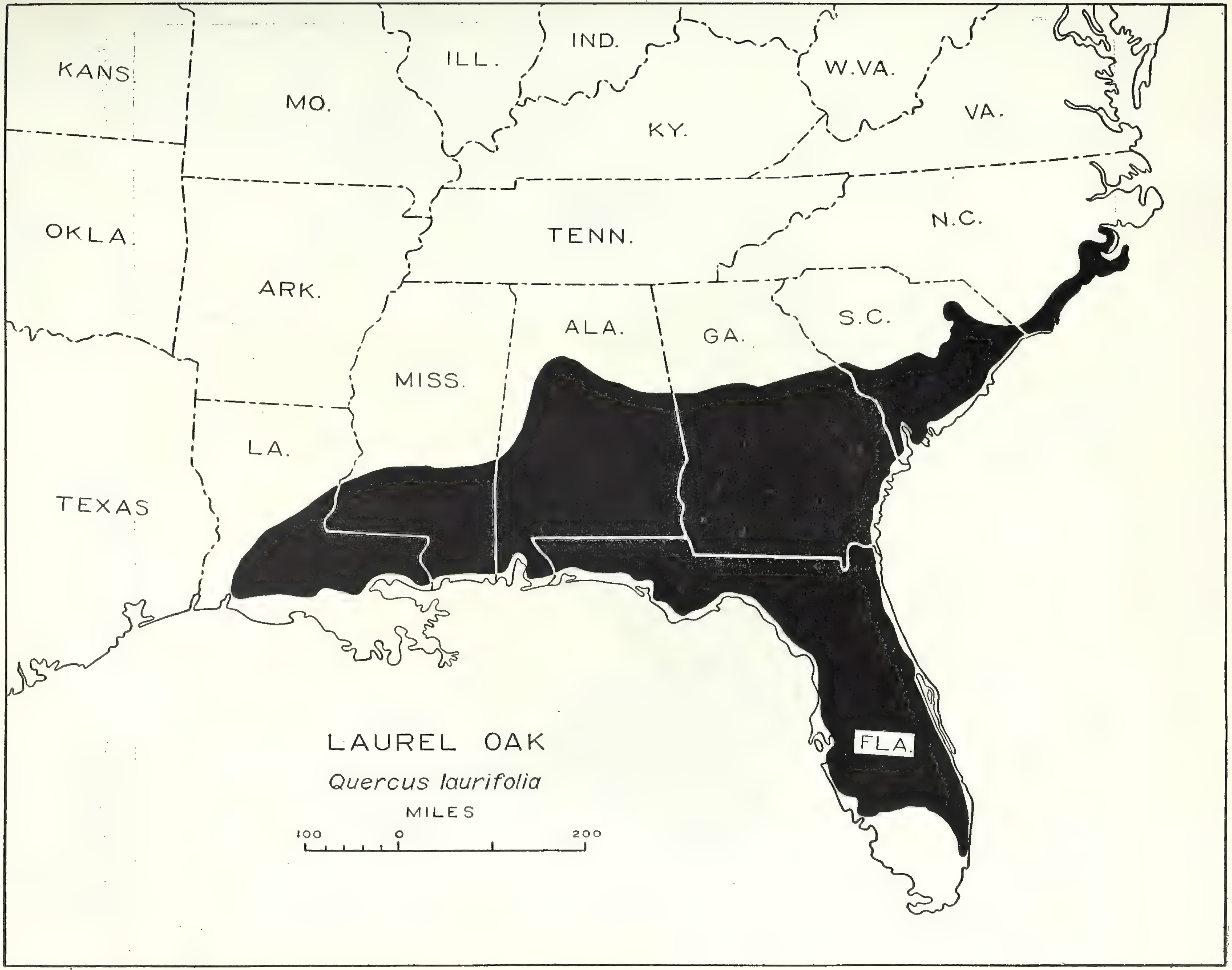
WATER OAK



Map 104

QUERCUS PHELLOS LINNAEUS
× QUERCUS HETEROPHYLLA MICHAUX FILIUS

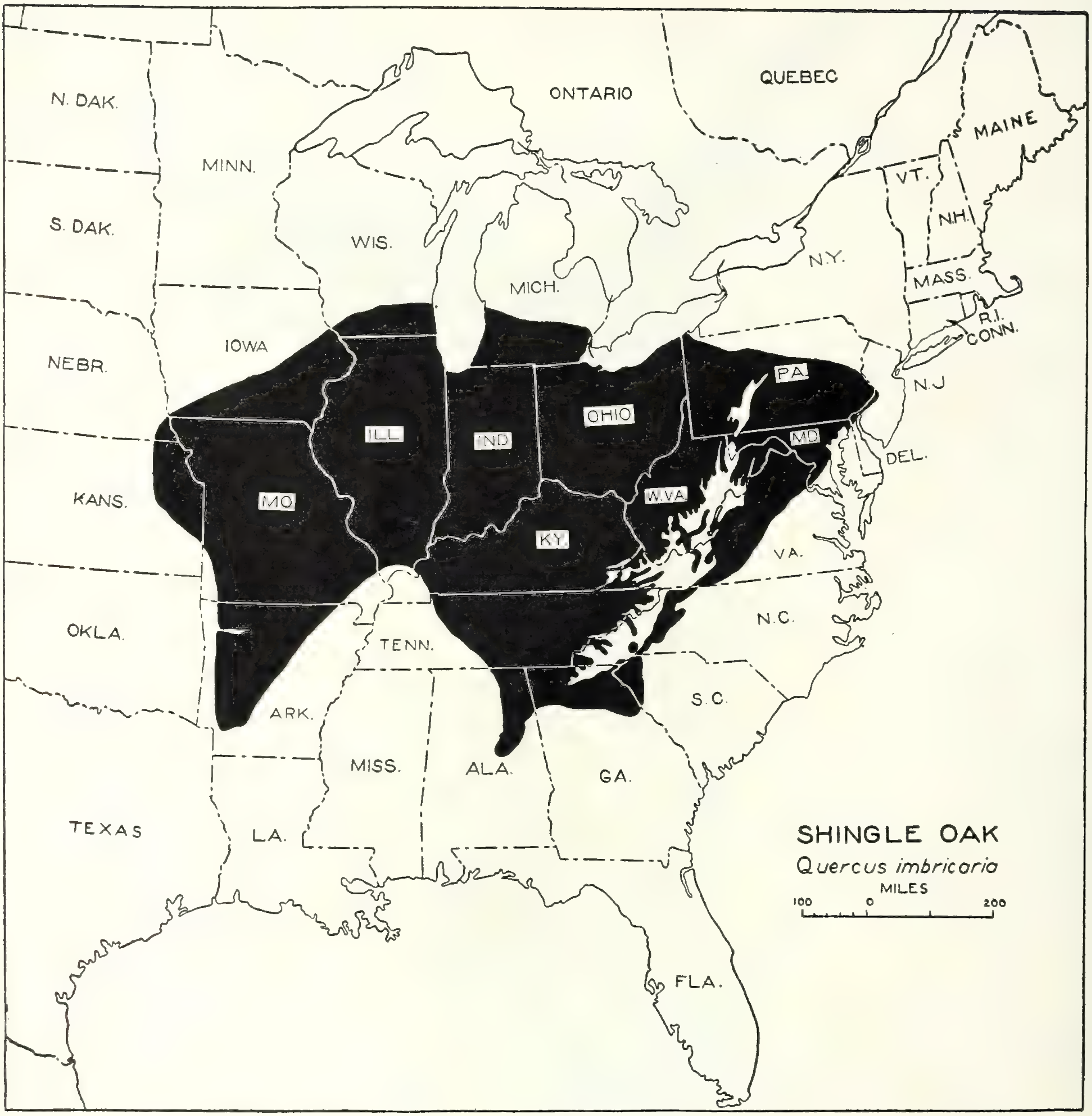
WILLOW OAK
BARTRAM OAK



Map 105

QUERCUS LAURIFOLIA MICHAUX

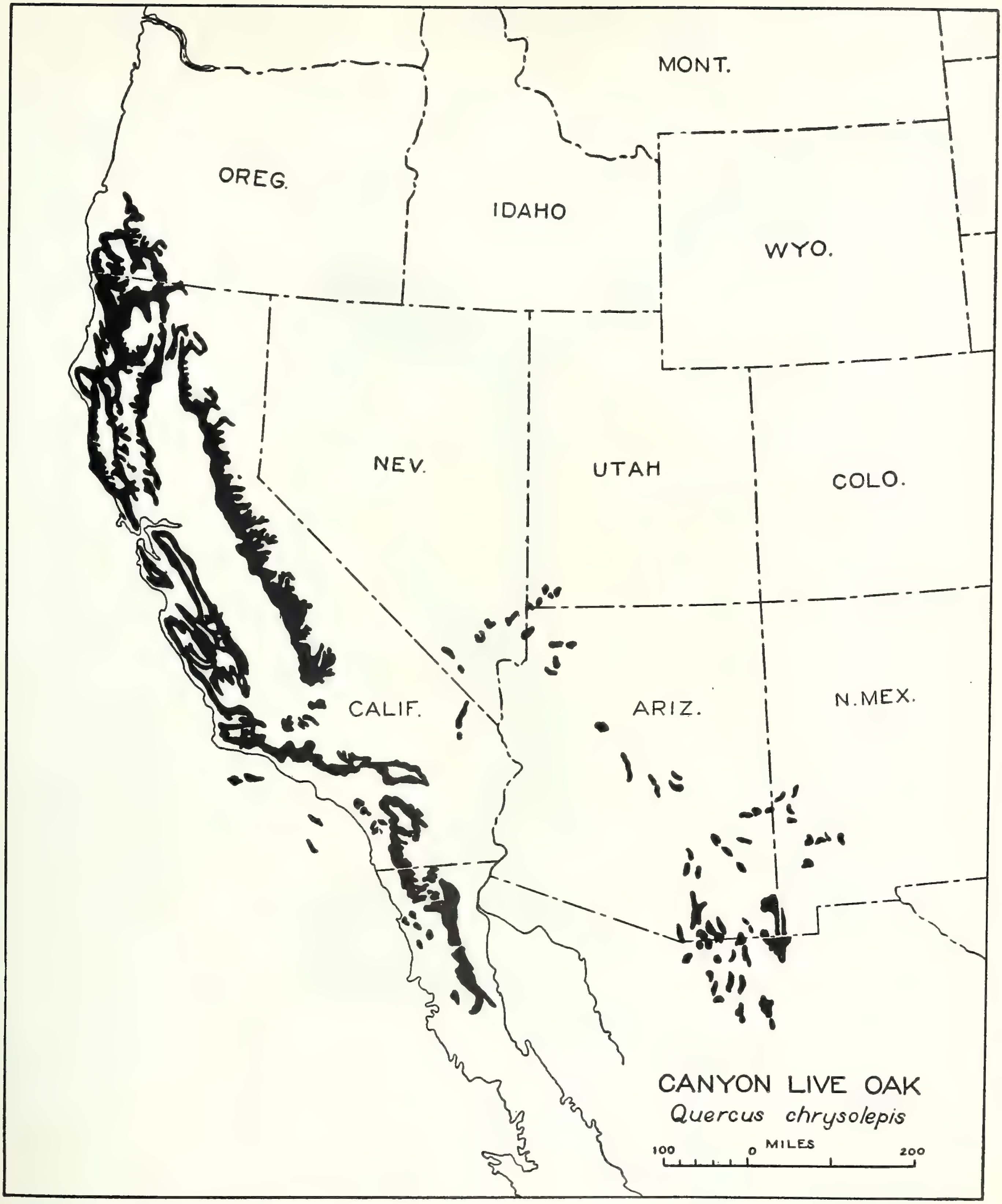
LAUREL OAK



Map 106

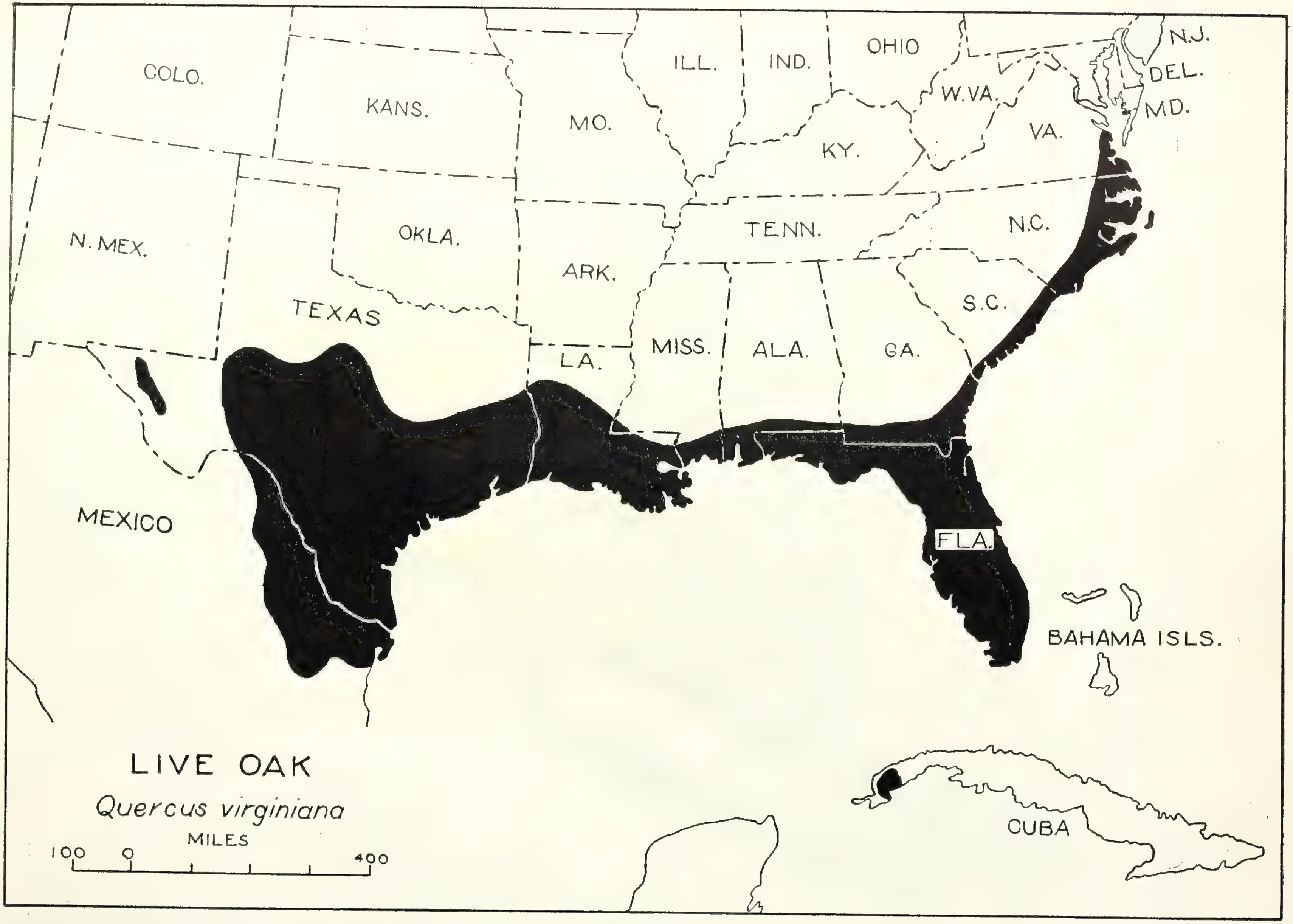
QUERCUS IMBRICARIA MICHAUX

SHINGLE OAK



Map 107

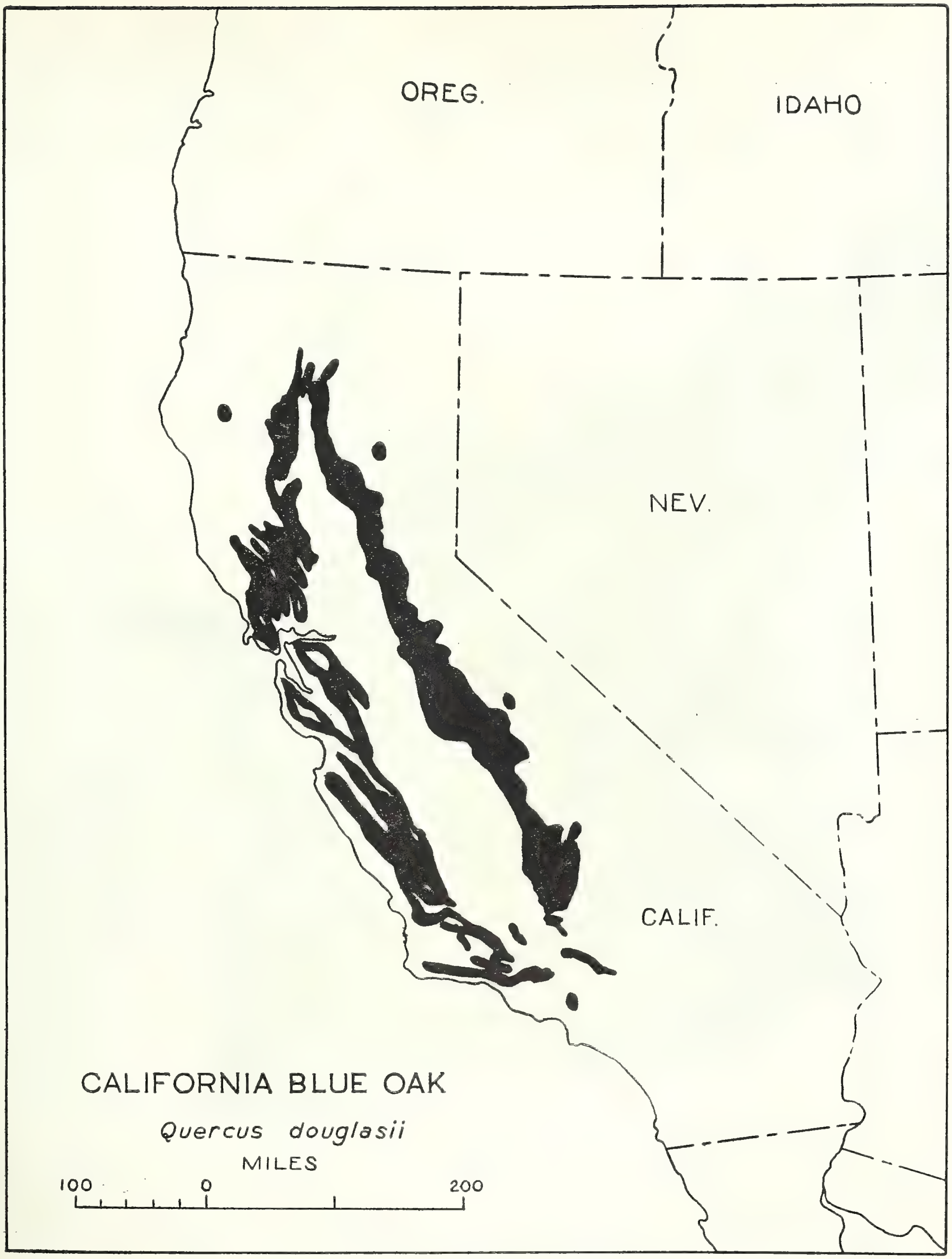
QUERCUS CHRYSOLEPIS LIEBMANN — CANYON LIVE OAK



Map 108

QUERCUS VIRGINIANA MILLER

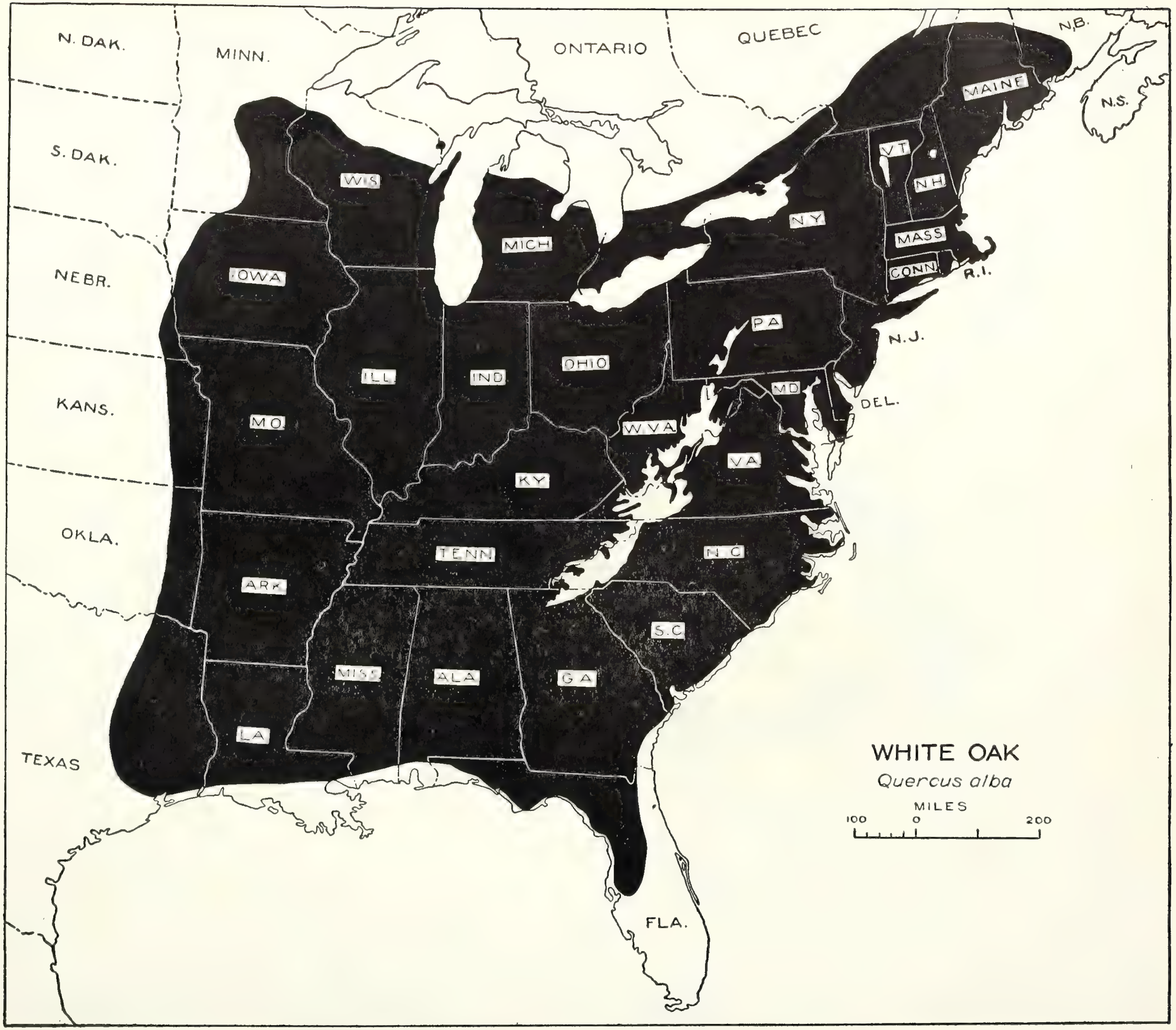
LIVE OAK



Map 109

QUERCUS DOUGLASII HOOKER AND ARNOTT

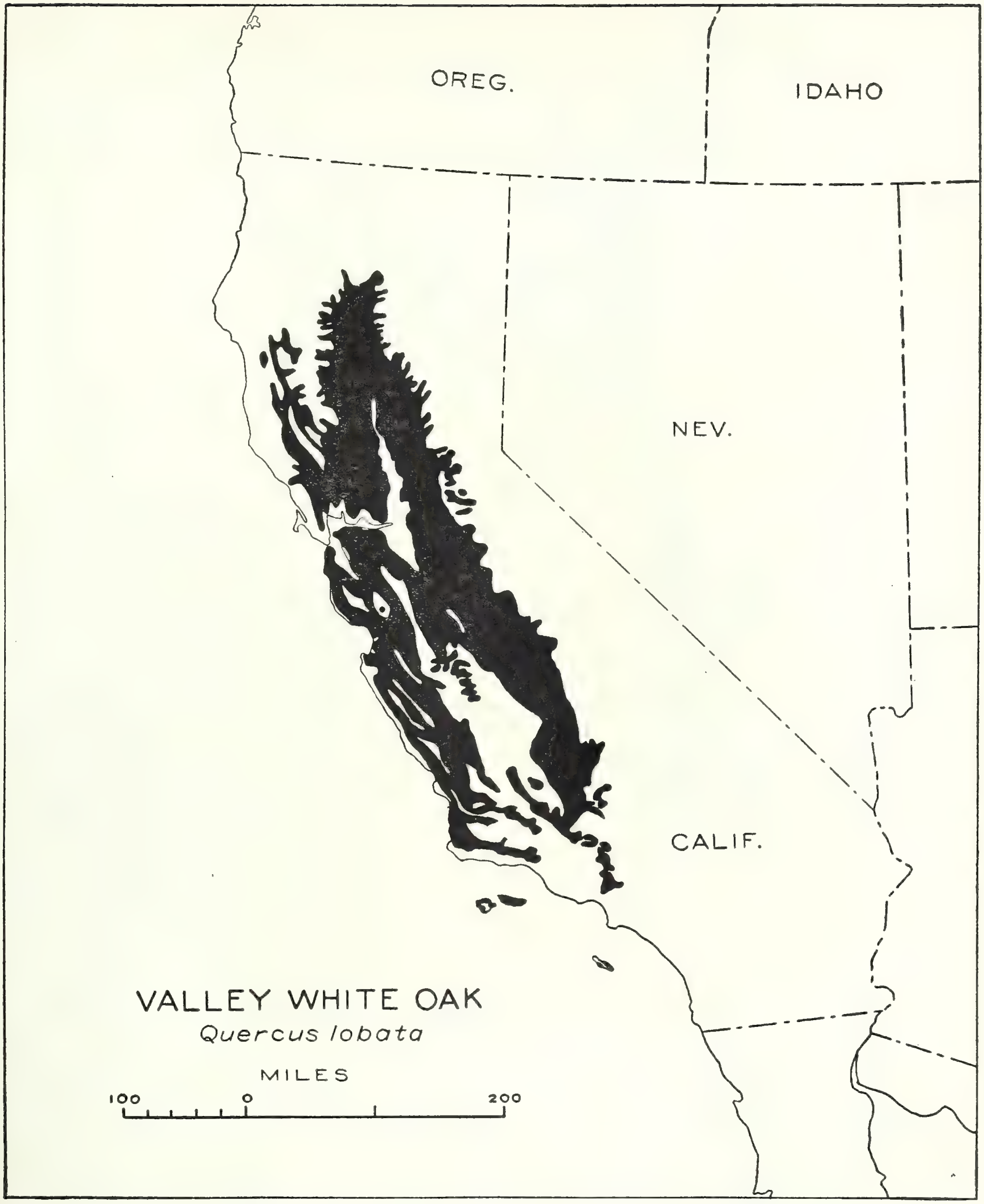
CALIFORNIA BLUE OAK



QUERCUS ALBA LINNAEUS

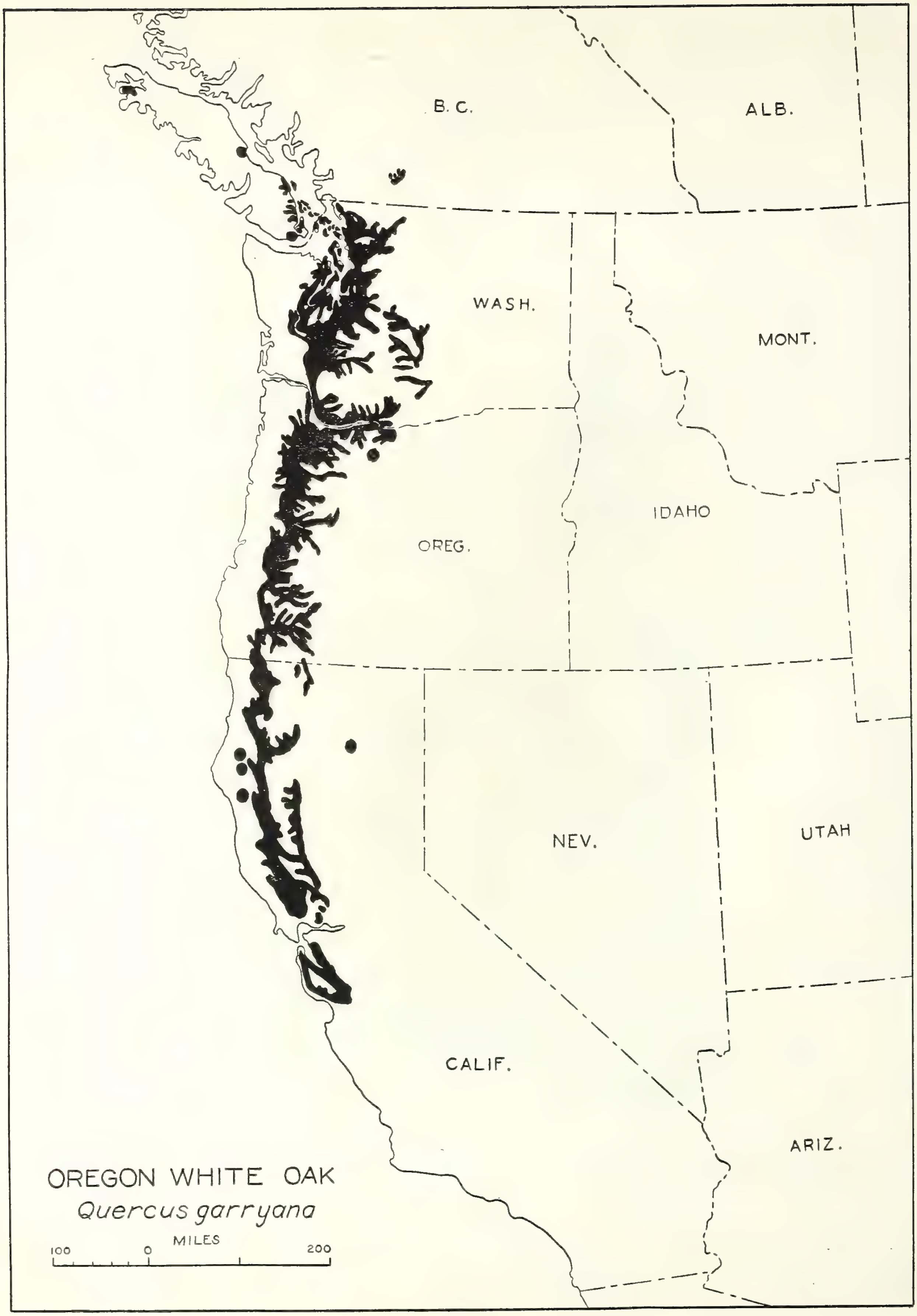
MAP 110

WHITE OAK



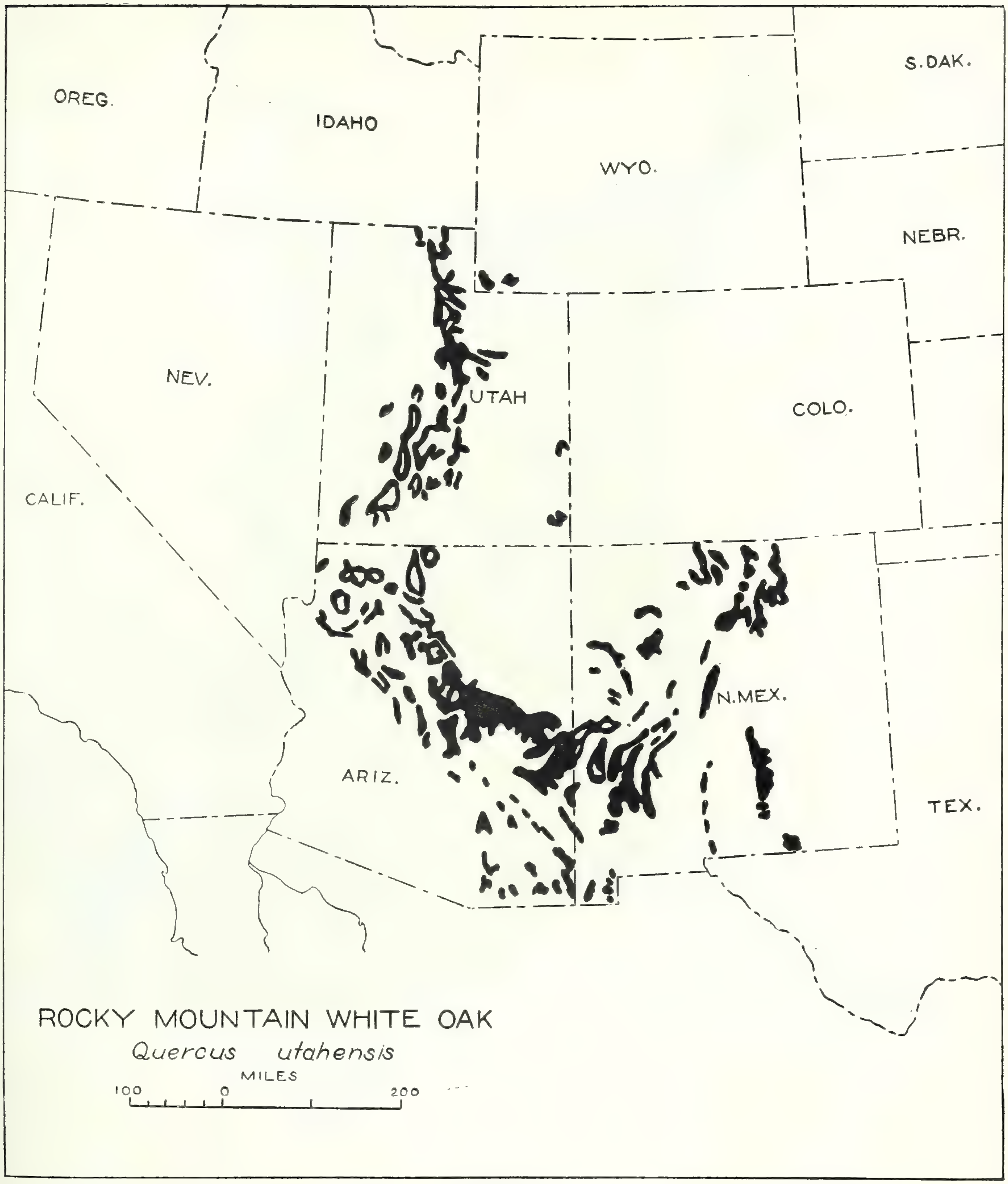
Map 111

QUERCUS LOBATA NÉE — VALLEY WHITE OAK



Map 112

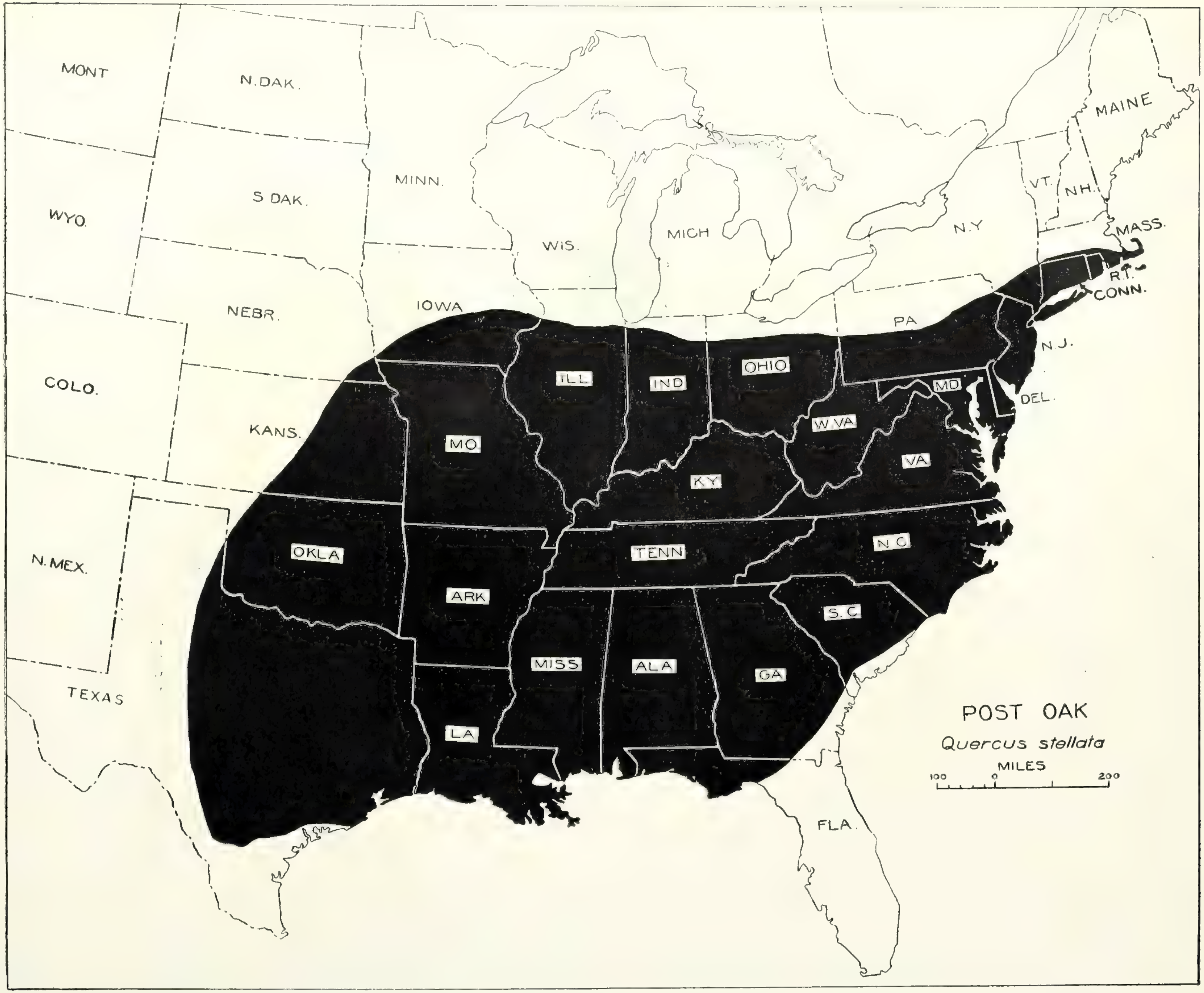
QUERCUS GARRYANA DOUGLAS OREGON WHITE OAK



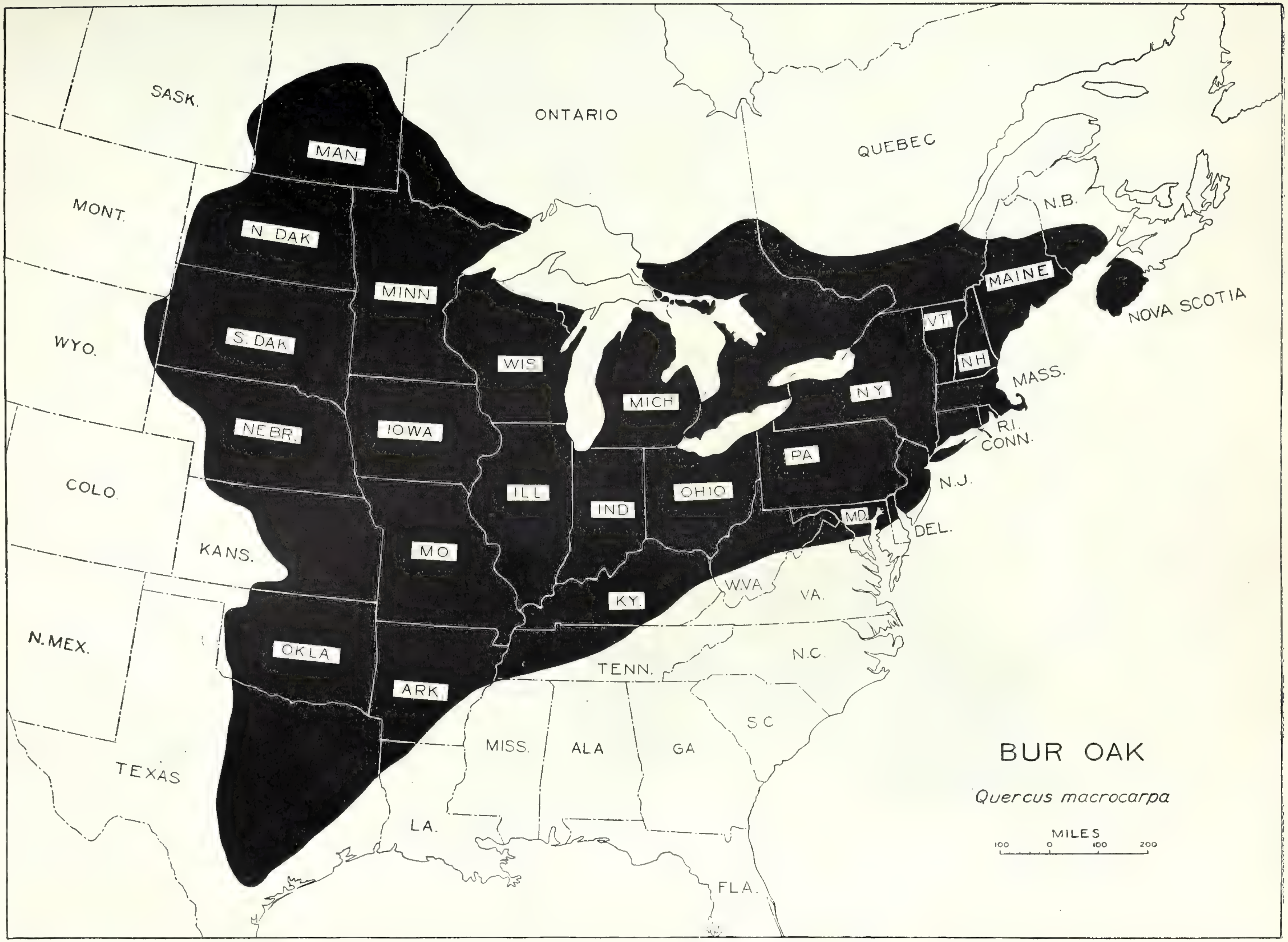
MAP 113

QUERCUS UTAHENSIS (A. DE CANDOLLE) RYDBERG

ROCKY MOUNTAIN WHITE OAK



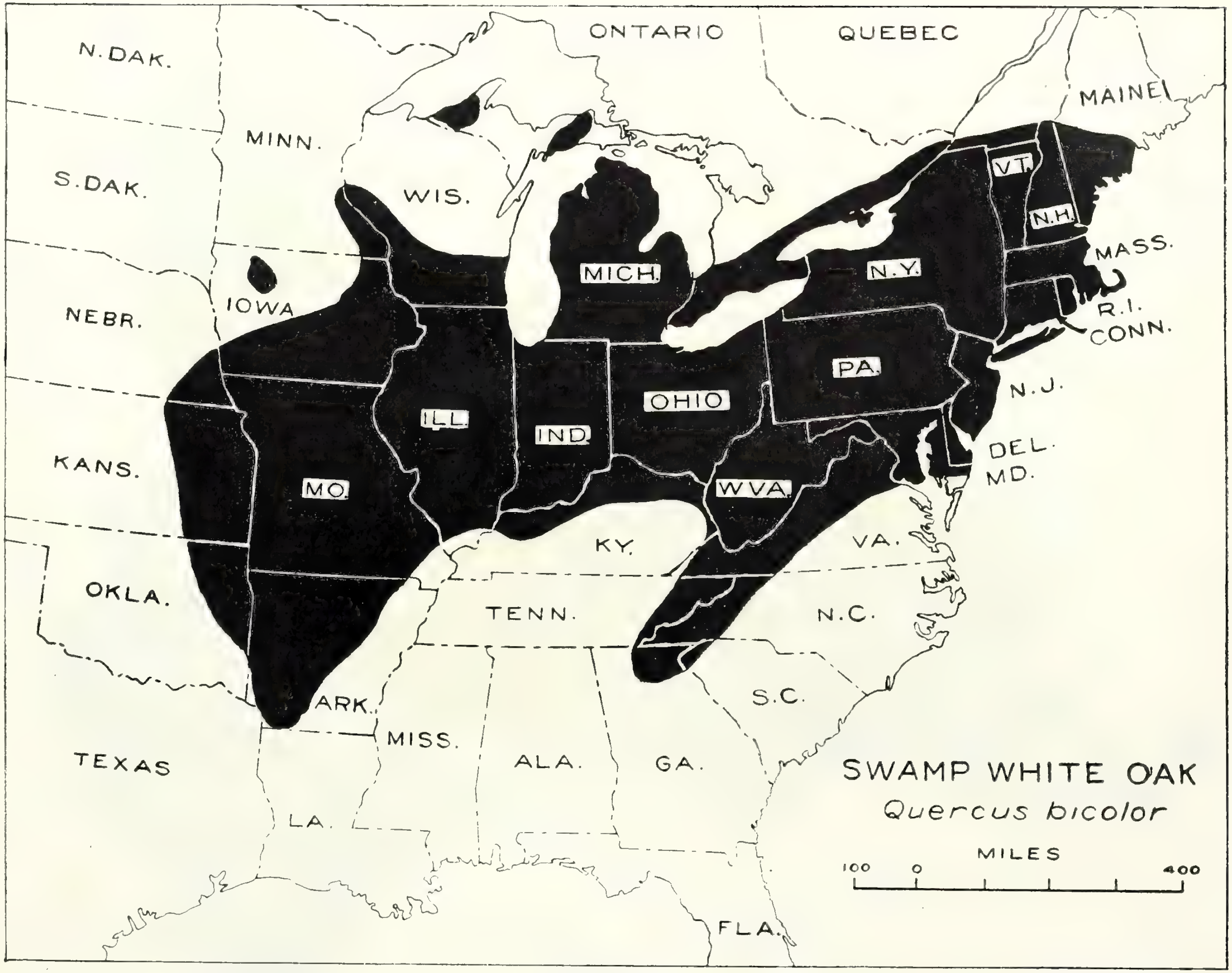
QUERCUS STELLATA WANGENHEIM   MAP 114   POST OAK



MAP 115

QUERCUS MACROCARPA MICHAUX

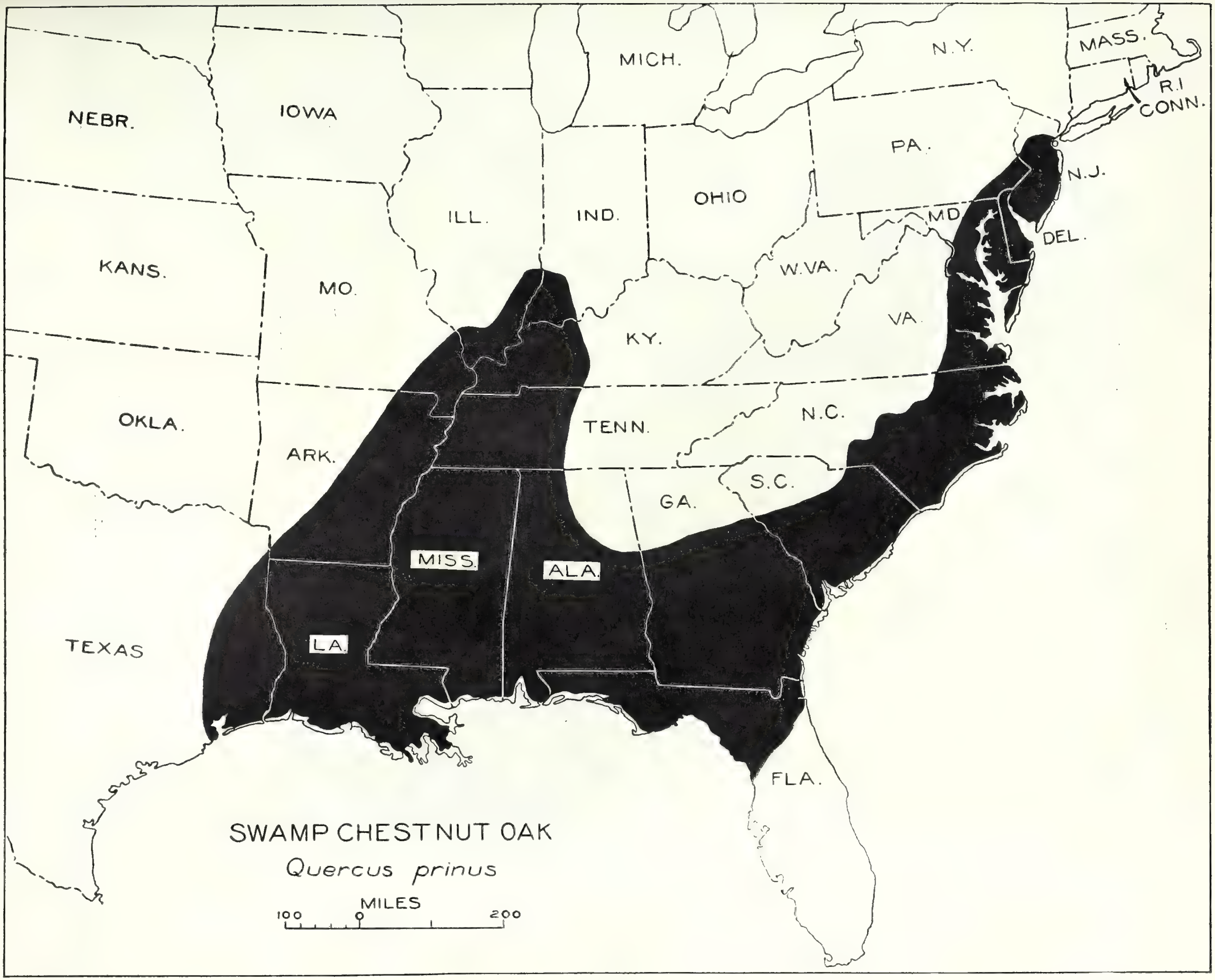
BUR OAK



QUERCUS BICOLOR WILLDENOW

MAP 116

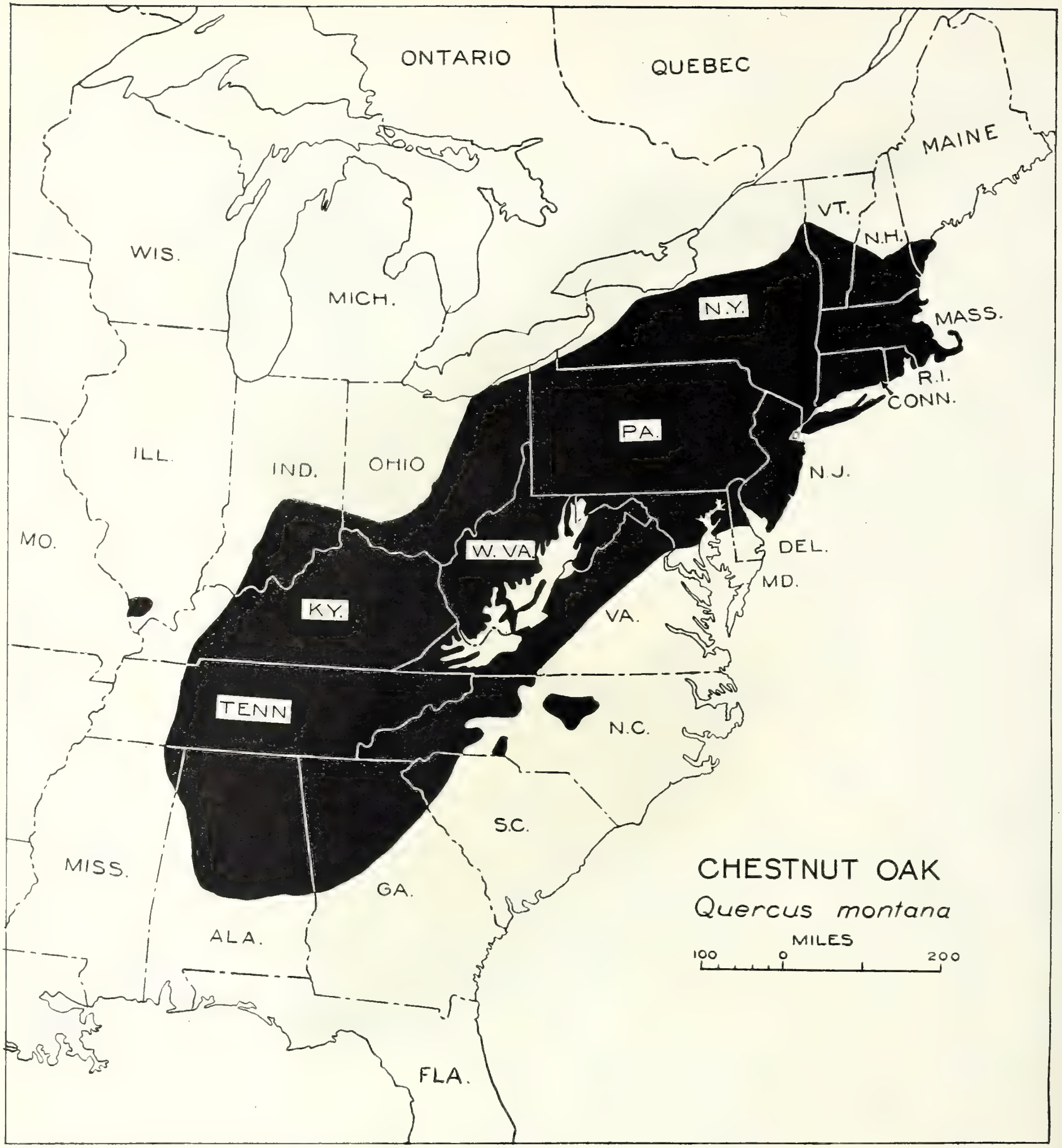
SWAMP WHITE OAK



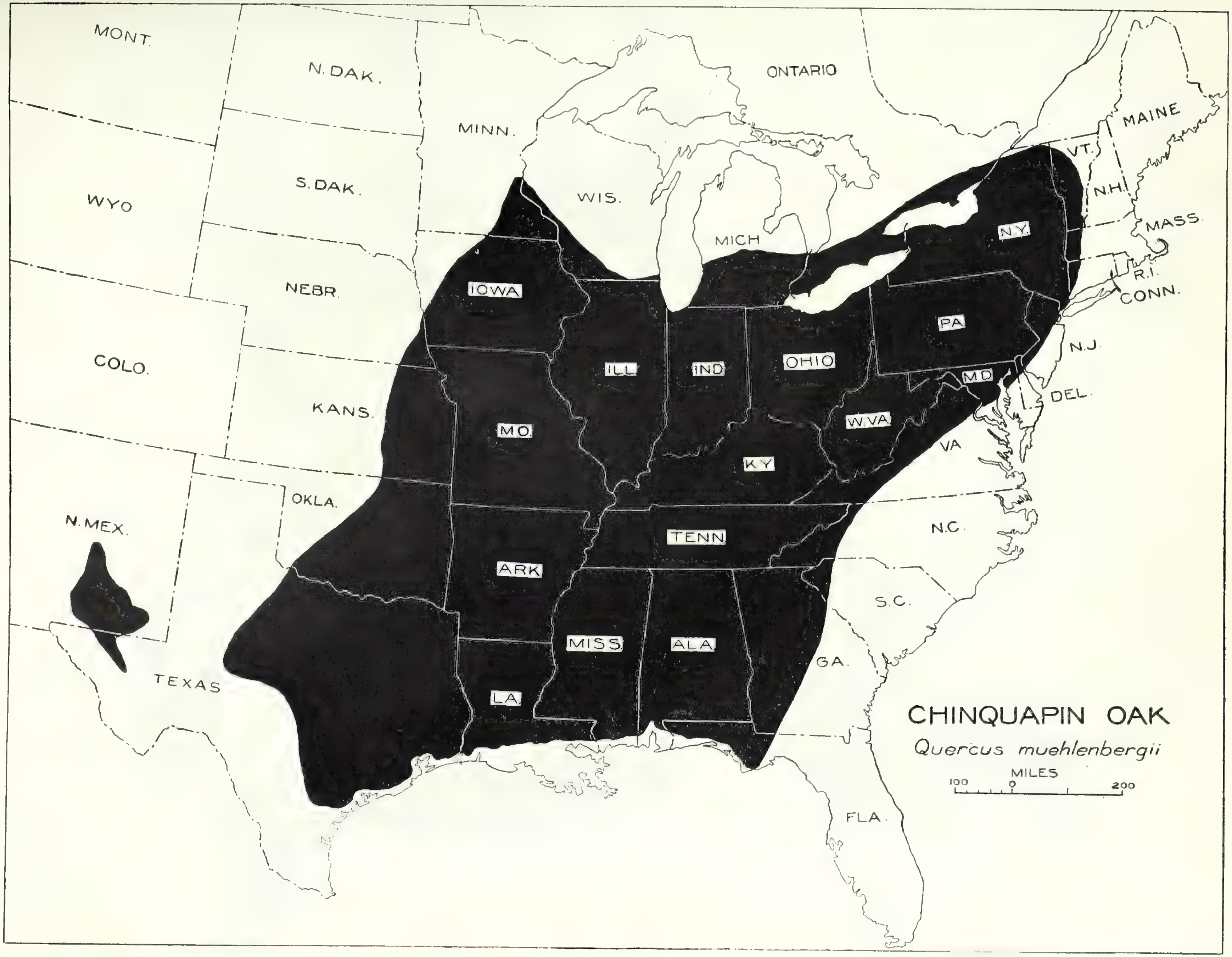
Map 117

QUERCUS PRINUS LINNAEUS

SWAMP CHESTNUT OAK



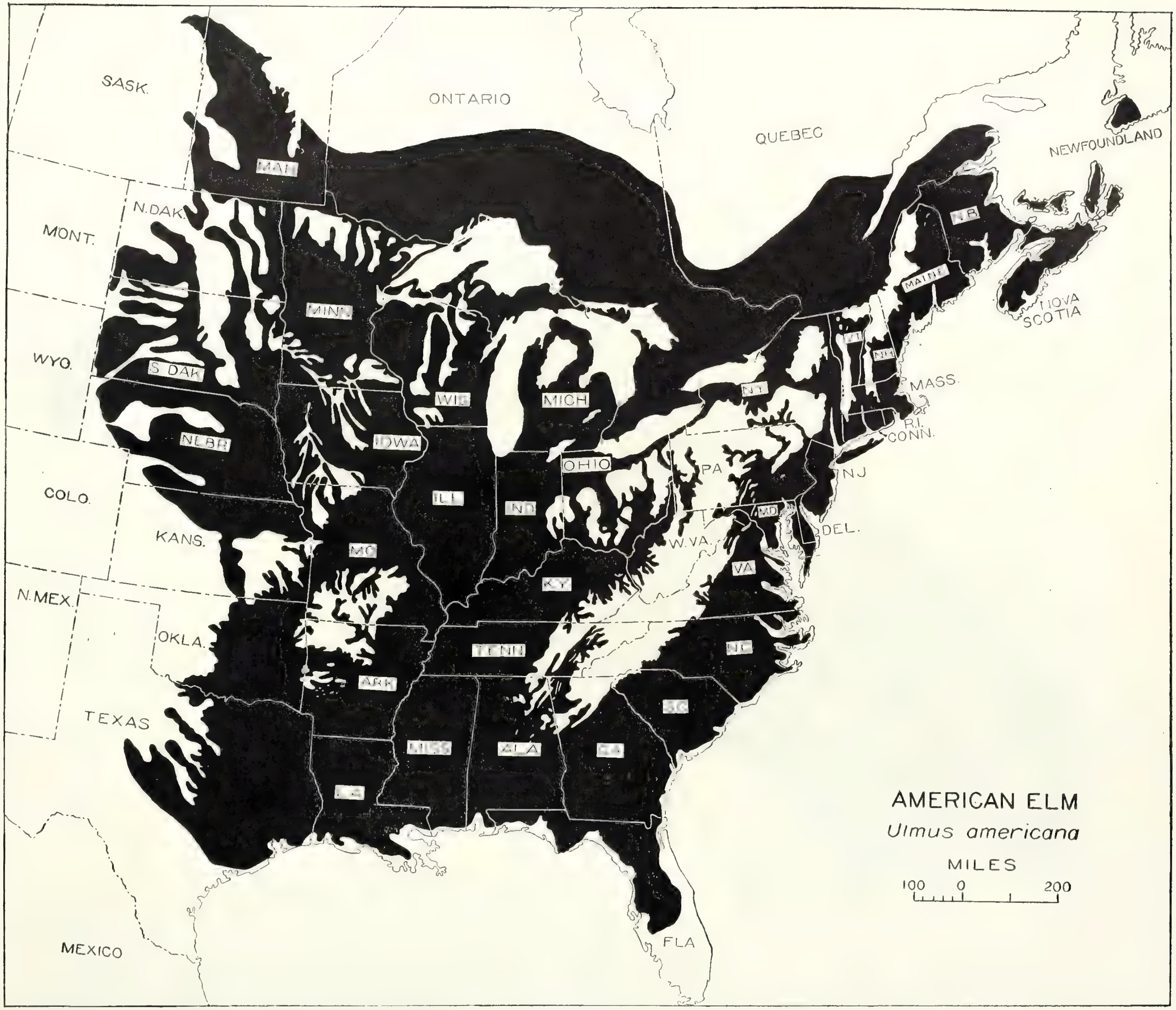
QUERCUS MONTANA WILLDENOW **MAP 118** CHESTNUT OAK



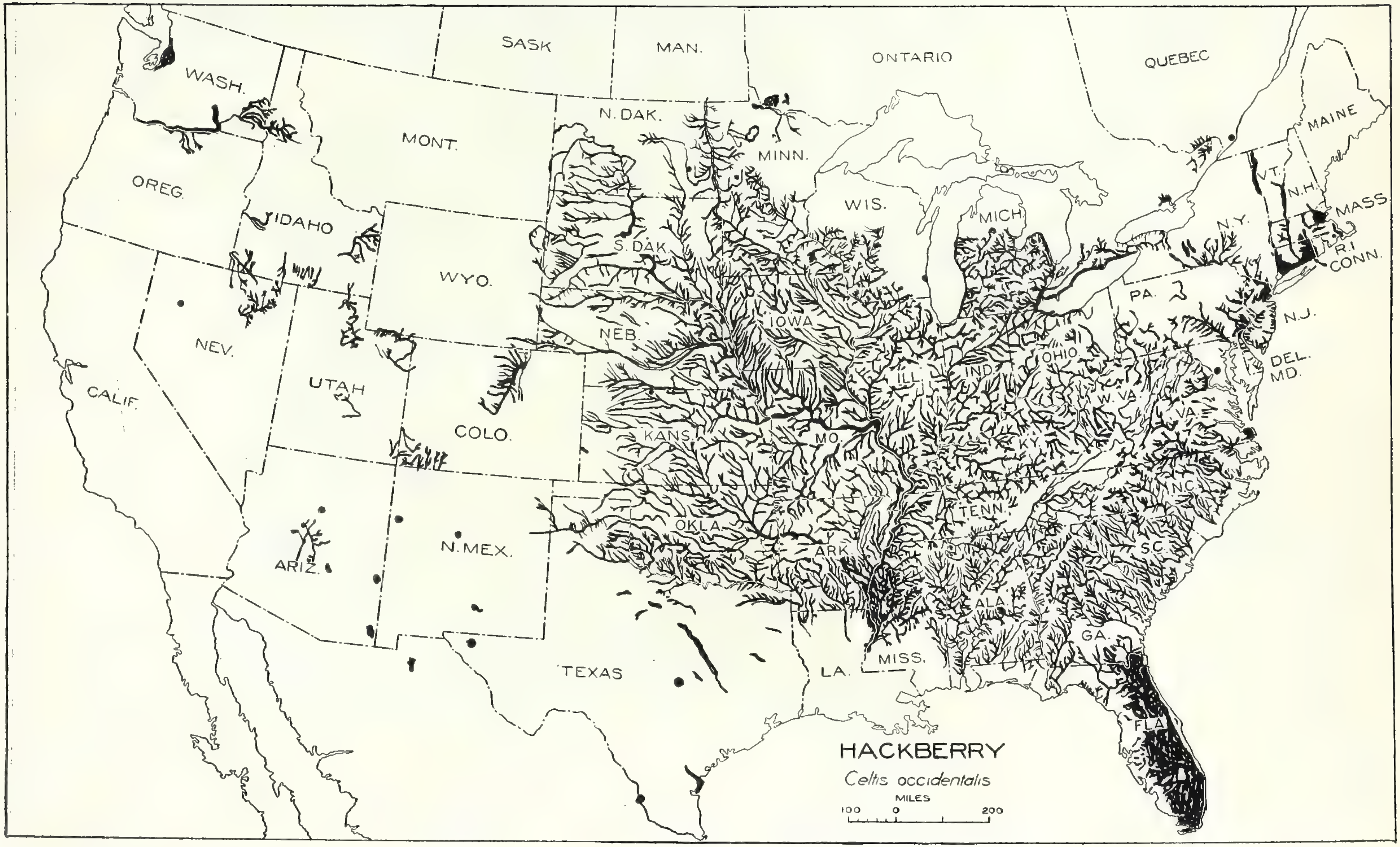
QUERCUS MUEHLENBERGII ENGELMANN

Map 119

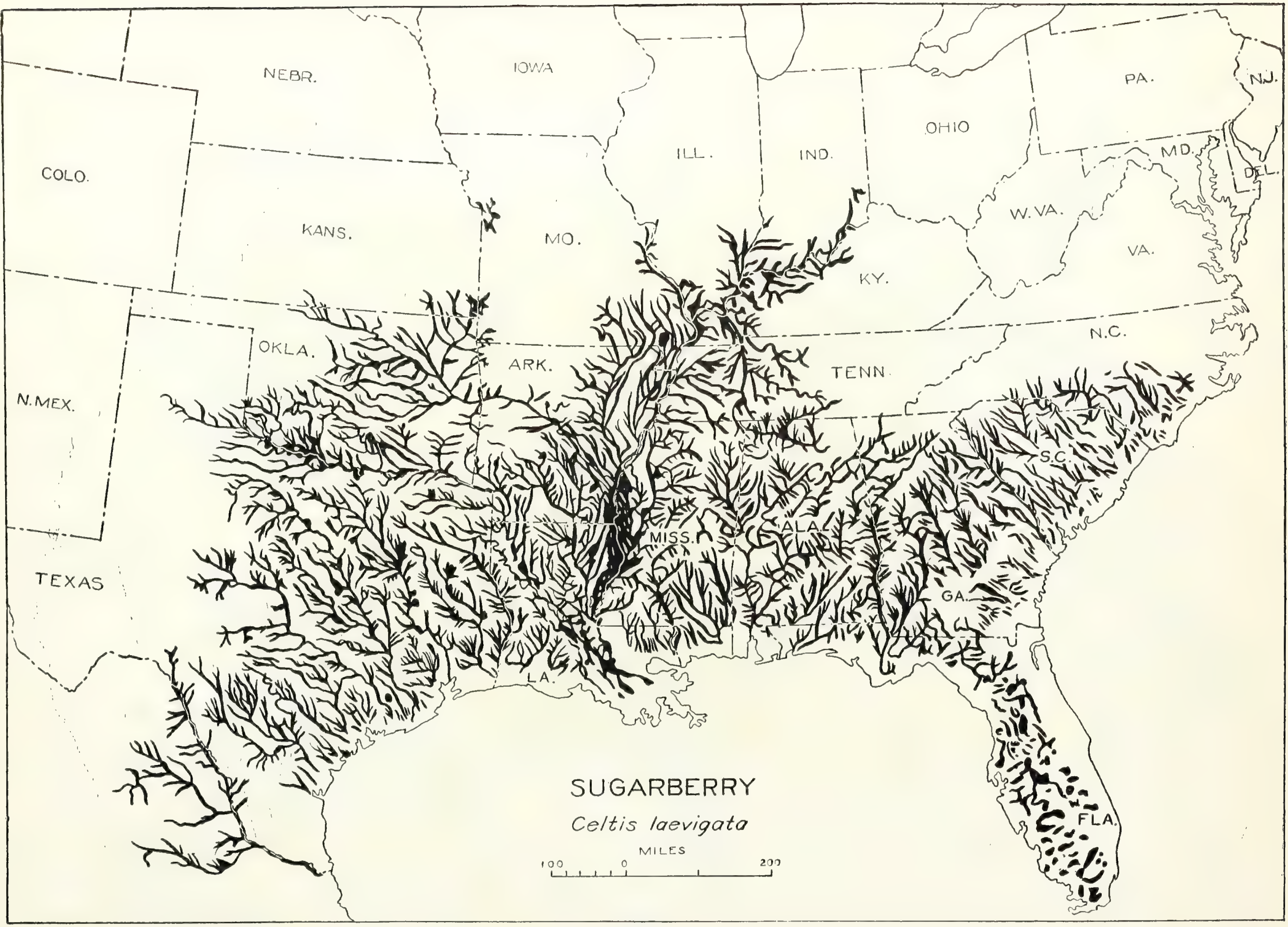
CHINQUAPIN OAK



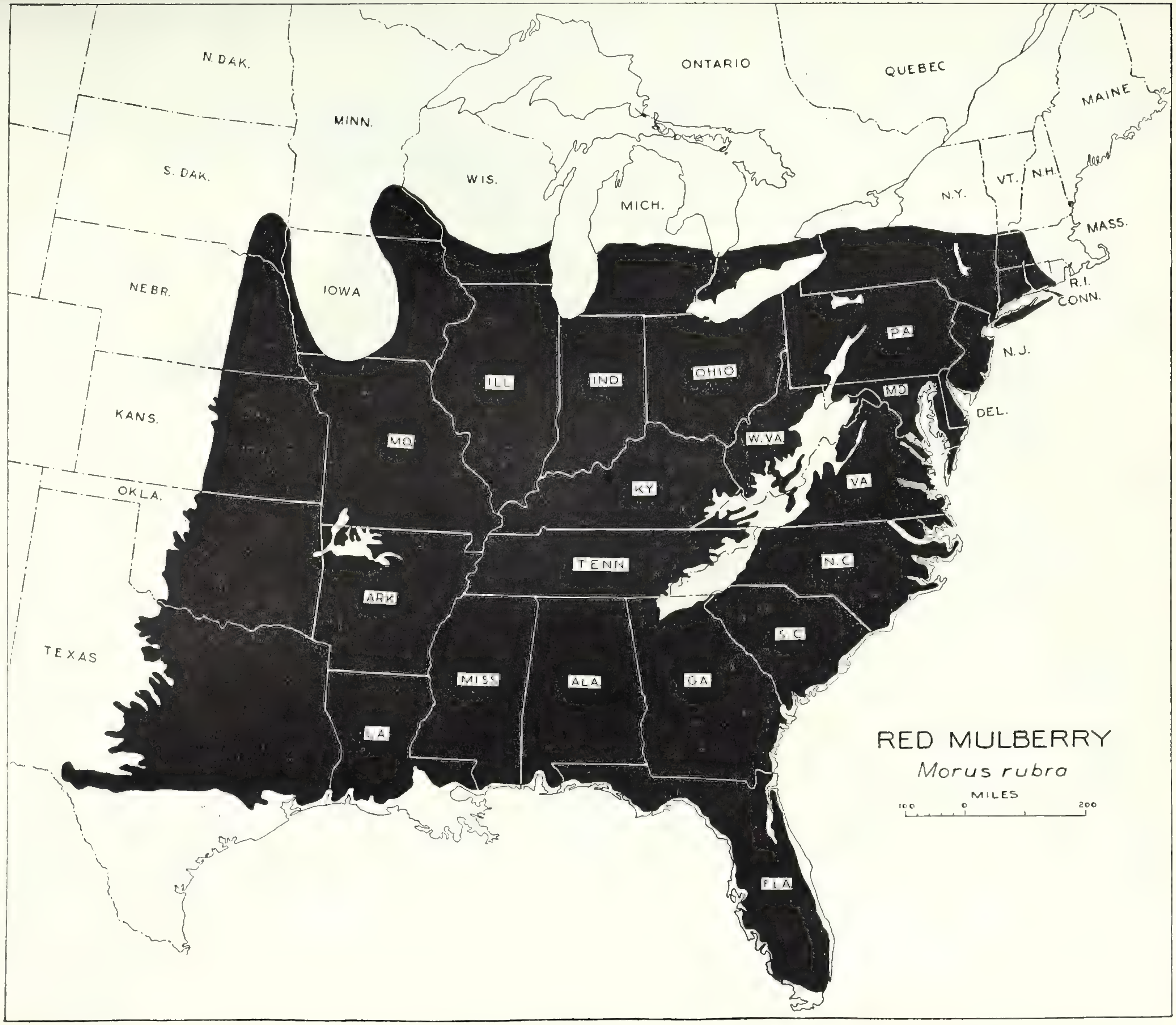
ULMUS AMERICANA LINNAEUS — Map 120 — AMERICAN ELM


HACKBERRY
Celtis occidentalis
MILES
100
0
200
SASK
MAN.
ONTARIO
QUEBEC
WASH.
MONT.
N. DAK.
MINN.
MAINE
OREG.
IDAHO
WYO.
S. DAK.
WIS.
MICH.
N.Y.
VT.
N.H.
MASS.
R.I.
CONN.
NEV.
UTAH
COLO.
NEB.
IOWA
ILL.
IND.
OHIO
PA.
N.J.
DEL.
MD.
W. VA.
VA.
CALIF.
KANS.
MO.
KY.
ARIZ.
N. MEX.
OKLA.
ARK.
TENN.
N.C.
S.C.
ALA.
GA.
MISS.
LA.
TEXAS
FLA.

Map 121


NEBR.
IOWA
COLO.
KANS.
MO.
ILL.
IND.
OHIO
PA.
N.J.
MD.
DEL.
W.VA.
VA.
KY.
N.C.
TENN.
OKLA.
ARK.
N.MEX.
S.C.
MISS.
ALA.
GA.
TEXAS
LA.
FLA.
SUGARBERRY
Celtis laevigata
MILES
100
0
200

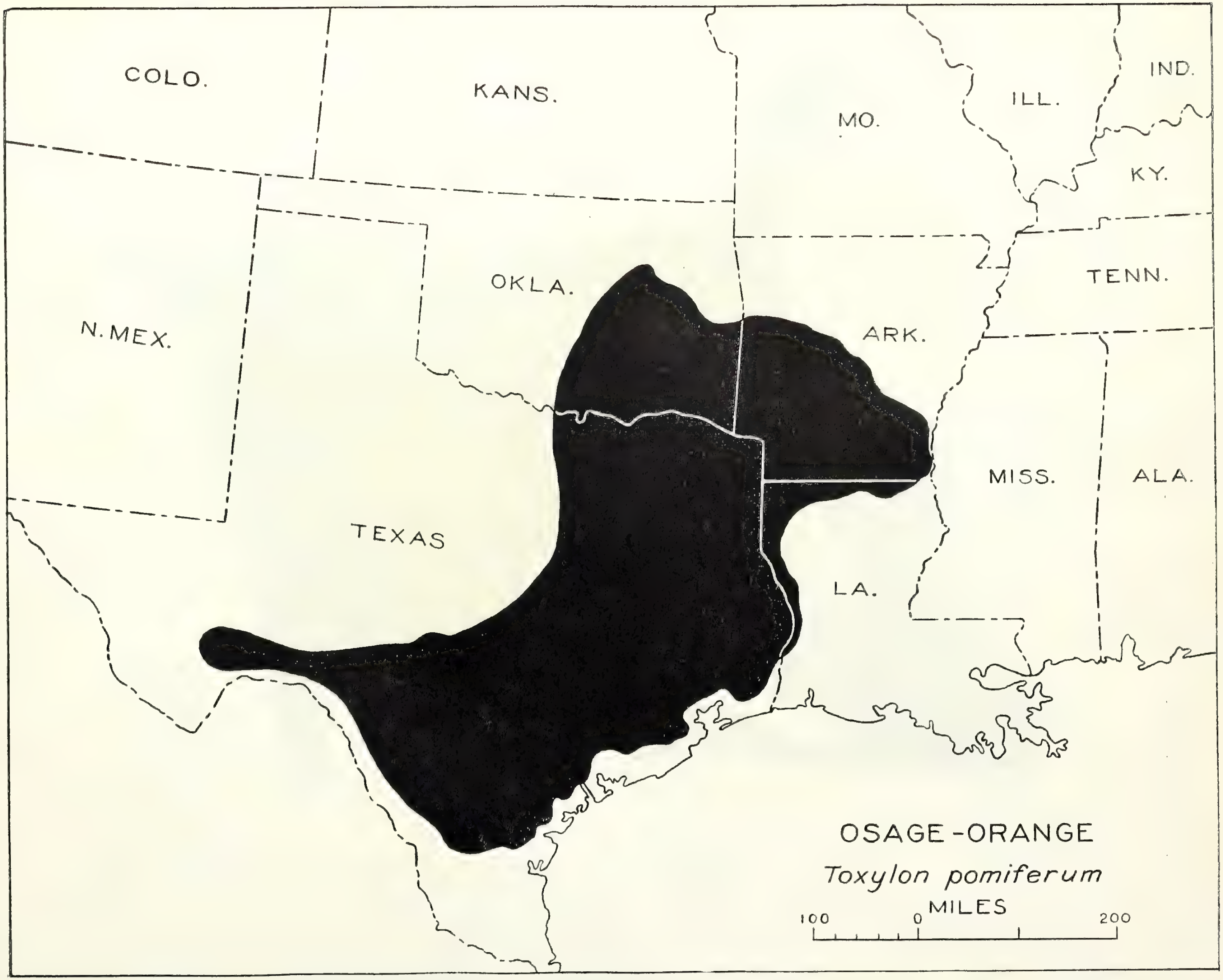
Map 122



Map 123

MORUS RUBRA LINNAEUS

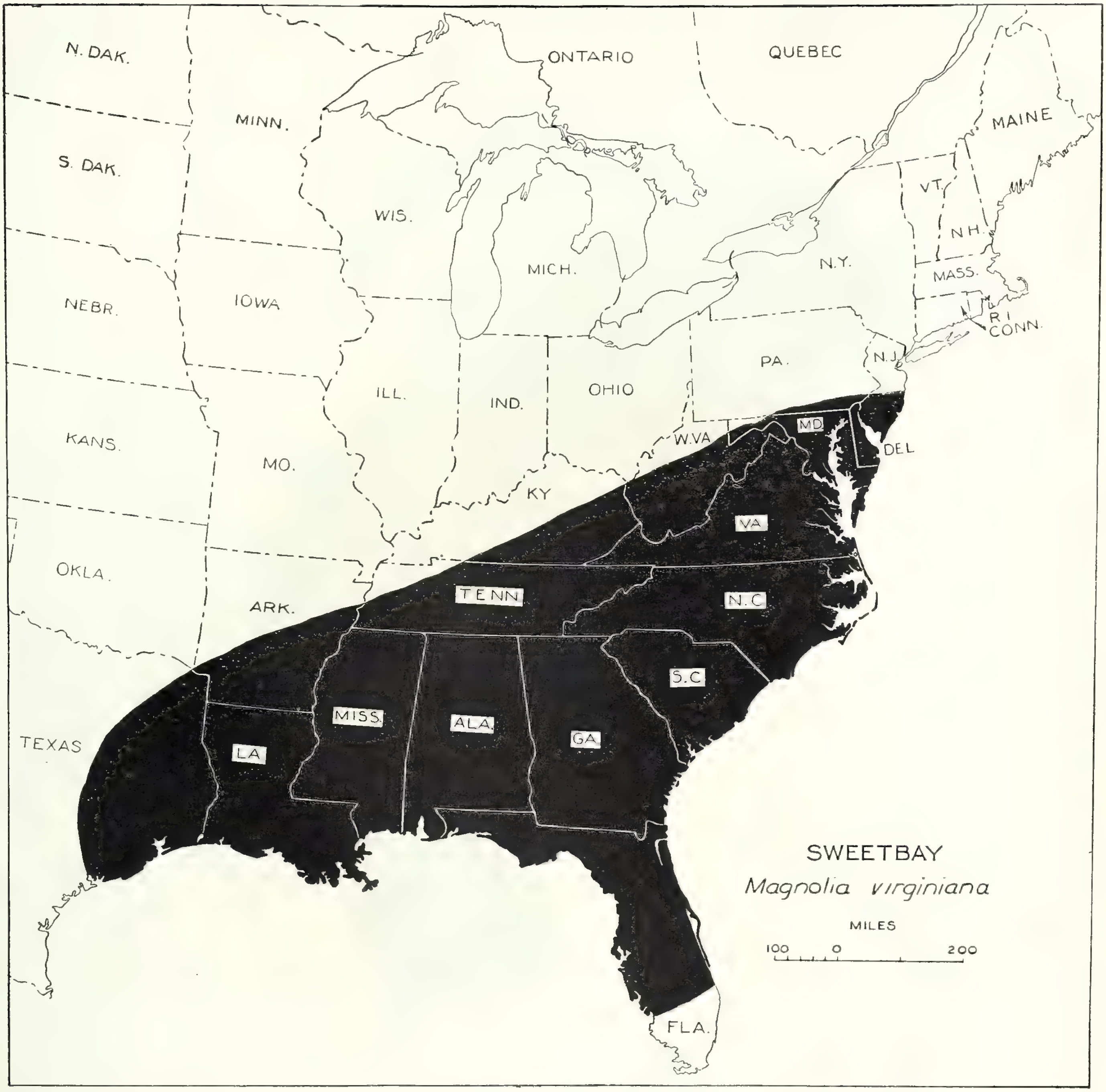
RED MULBERRY



Map 124

TOXYLON POMIFERUM RAFINESQUE

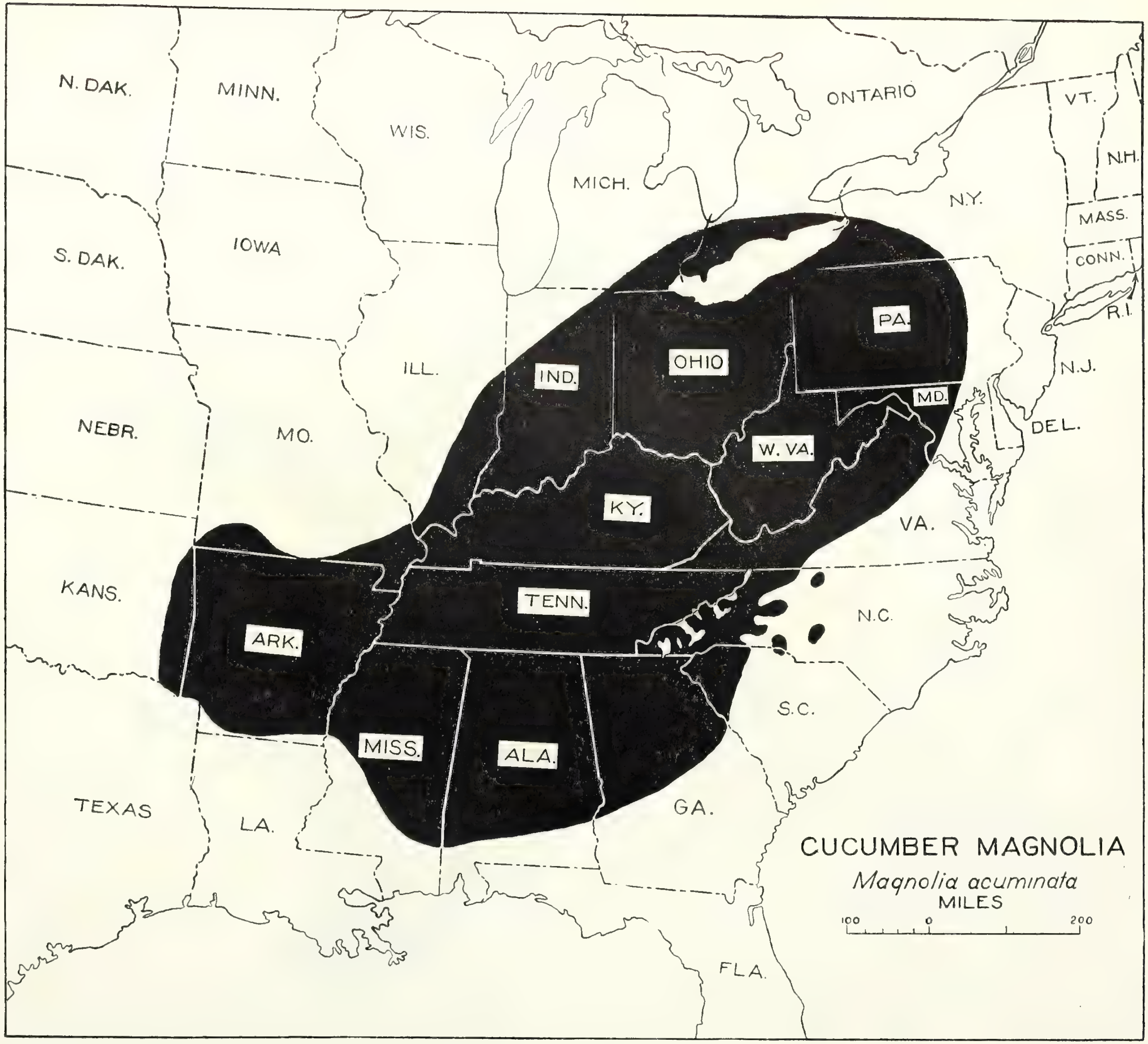
OSAGE-ORANGE



Map 125

MAGNOLIA VIRGINIANA LINNAEUS

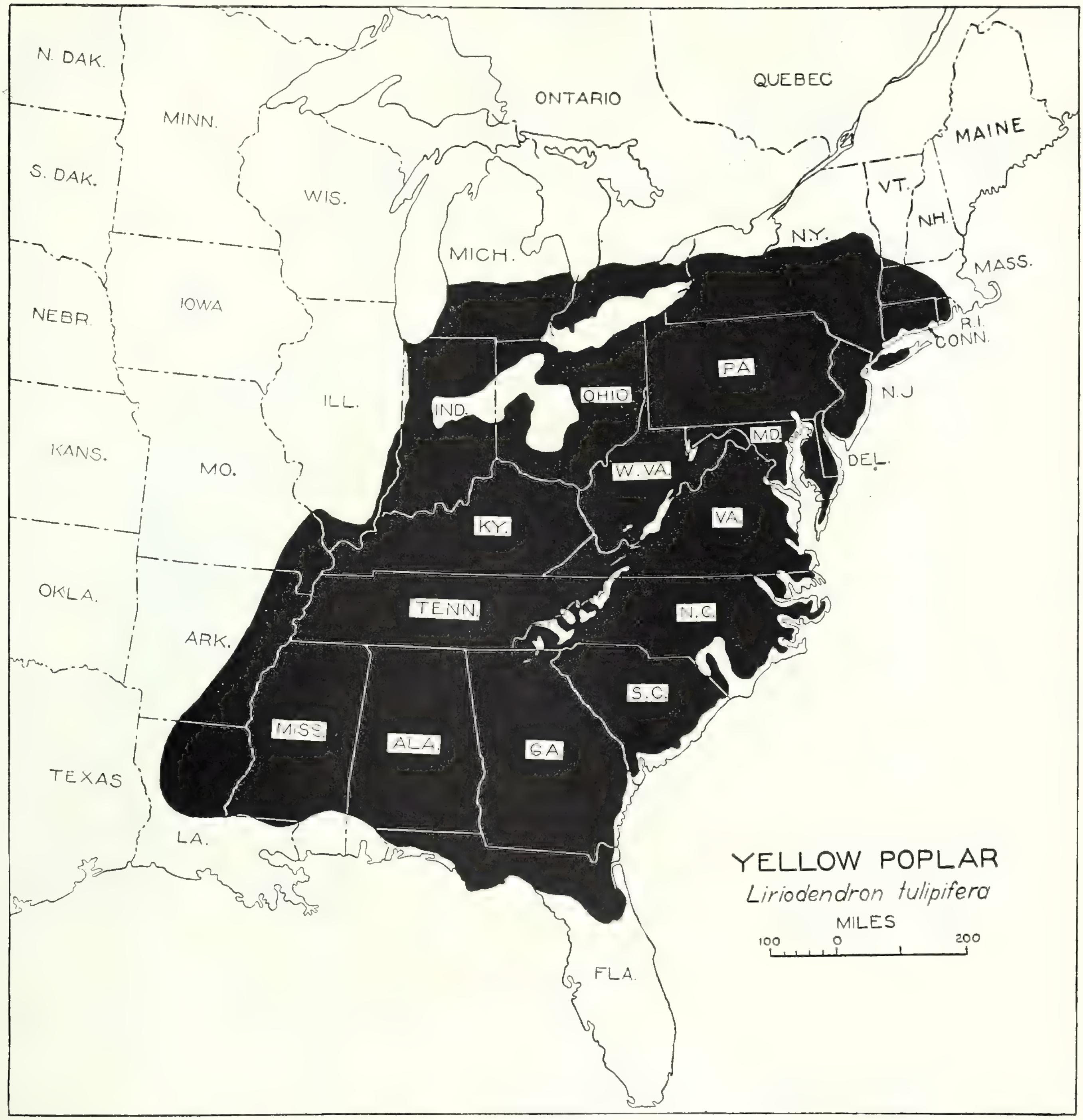
SWEETBAY



Map 126

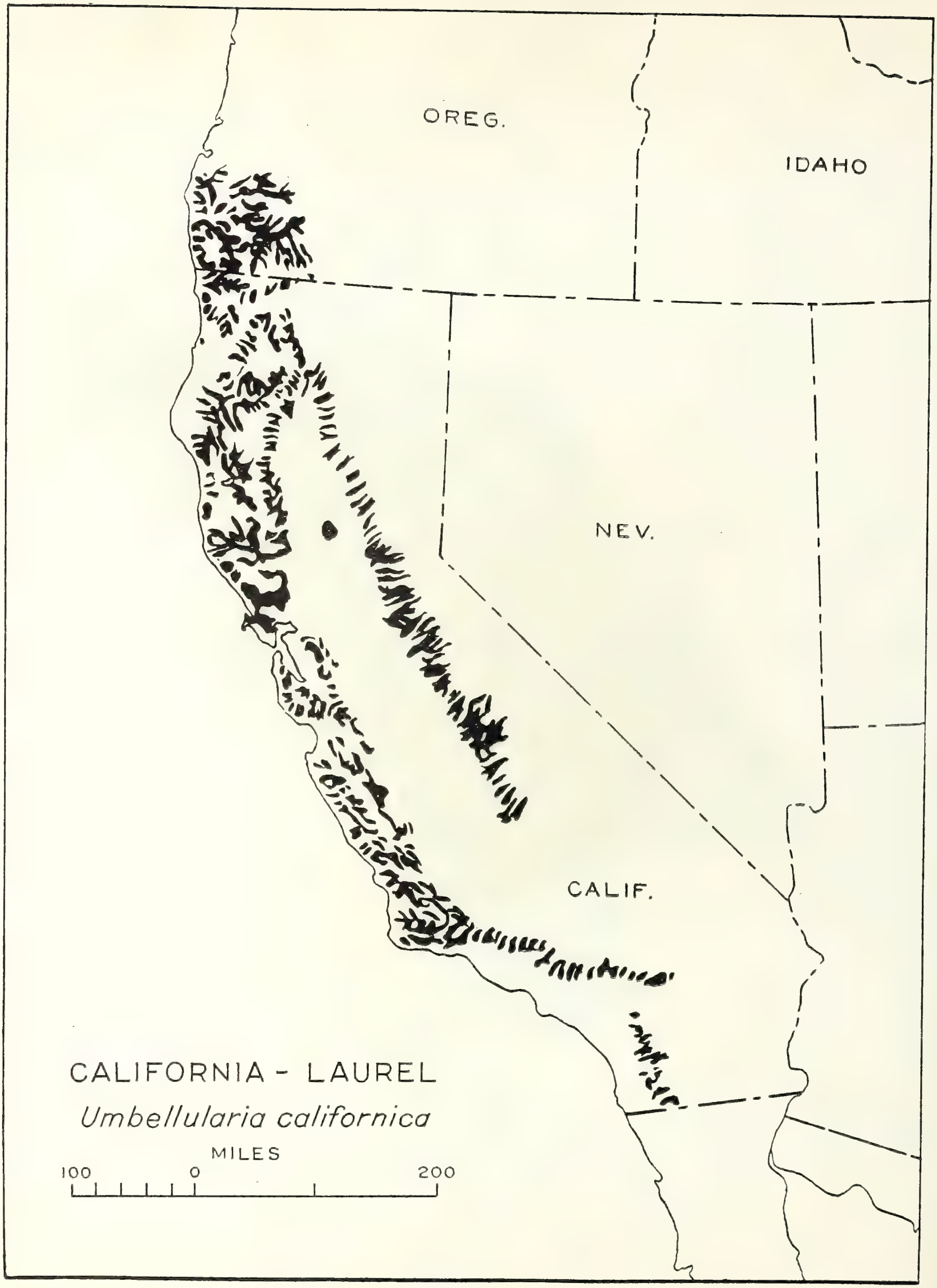
MAGNOLIA ACUMINATA LINNAEUS

CUCUMBER MAGNOLIA



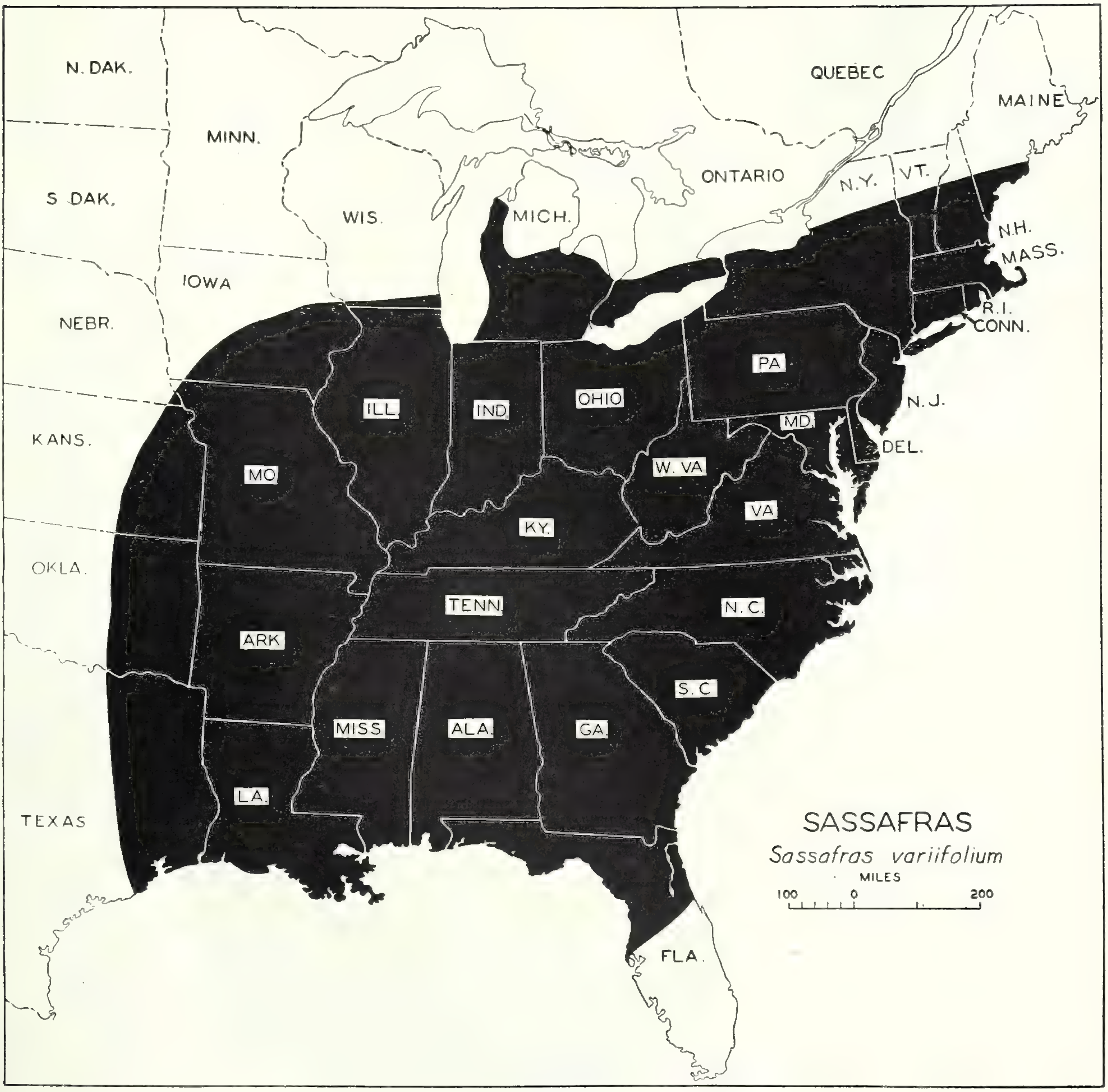
Map 127

LIRIODENDRON TULIPIFERA LINNAEUS YELLOW POPLAR



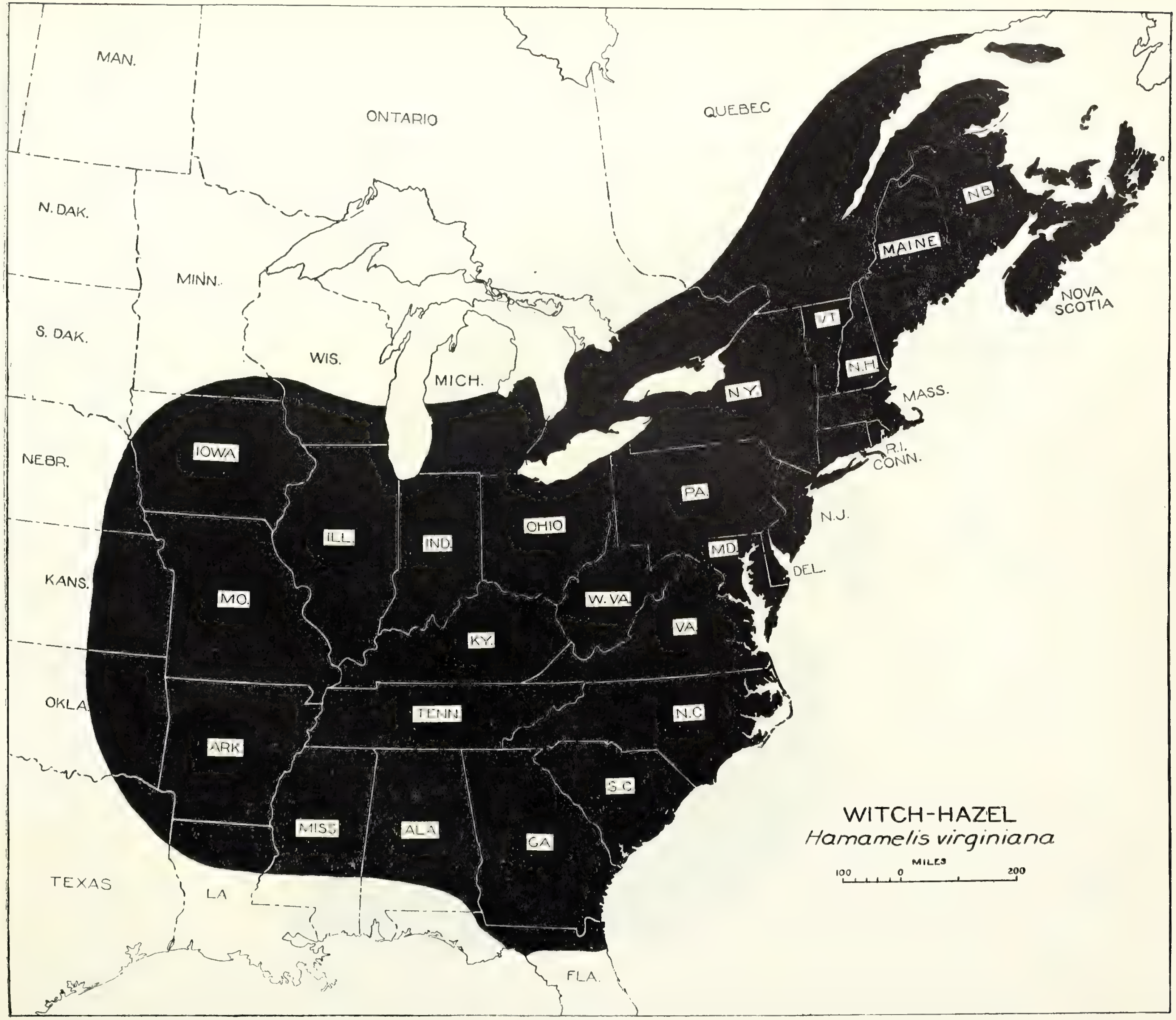
Map 128

UMBELLULARIA CALIFORNICA (HOOKER AND ARNOTT) NUTTALL CALIFORNIA-LAUREL



Map 129

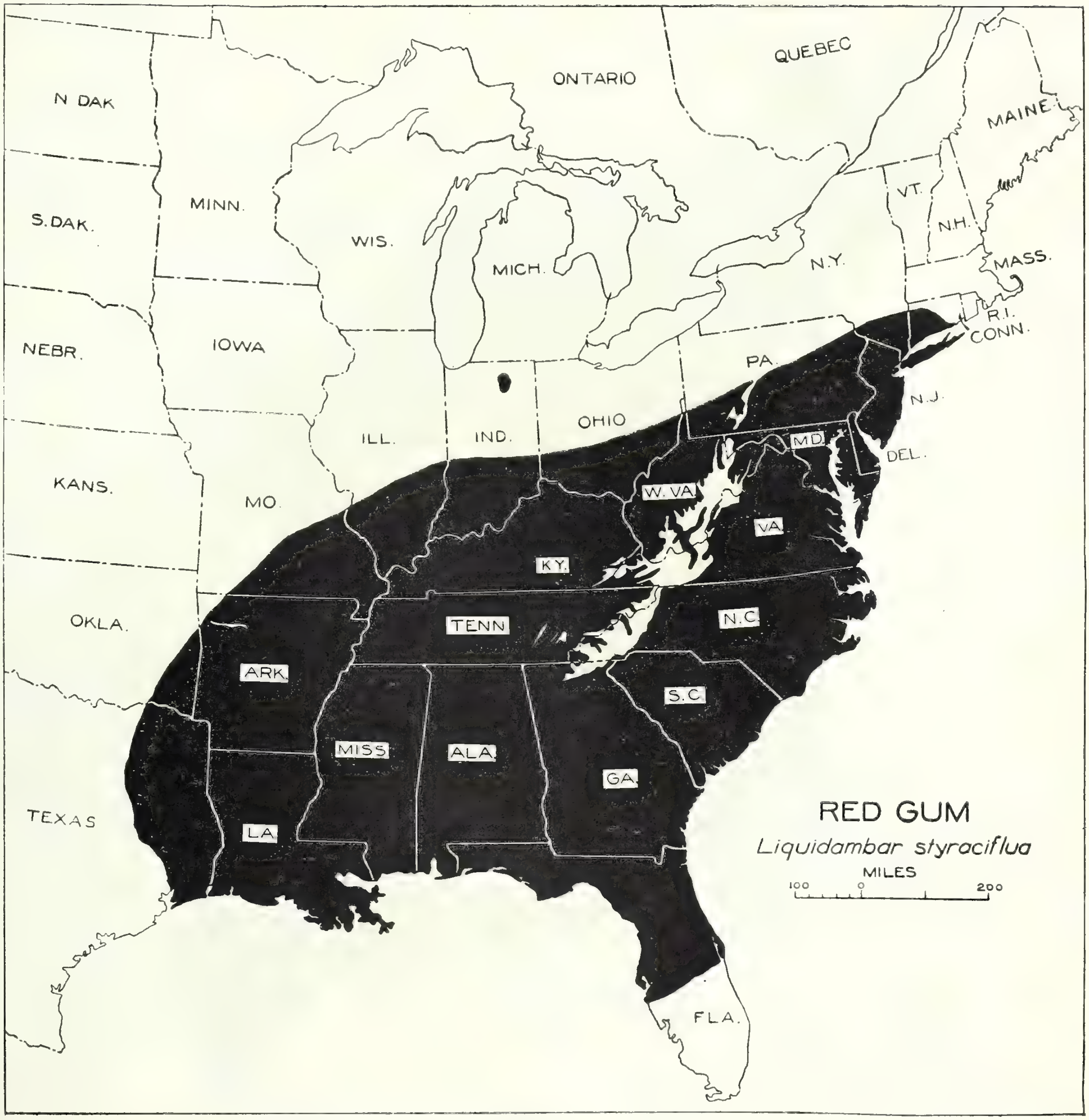
SASSAFRAS VARIIFOLIUM (SALISBURY) KUNTZE SASSAFRAS



Map 130

HAMAMELIS VIRGINIANA LINNAEUS

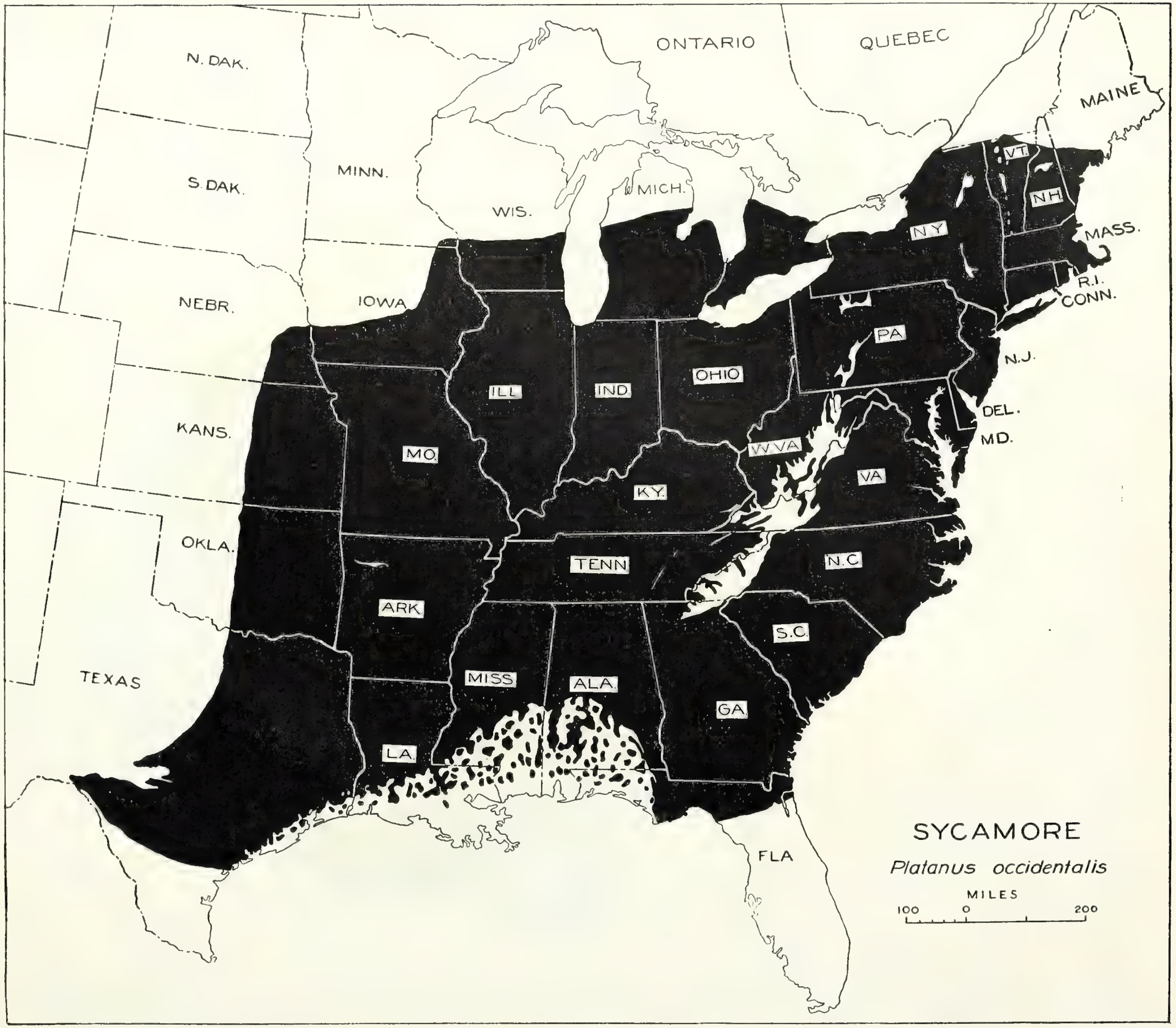
WITCH-HAZEL



Map 131

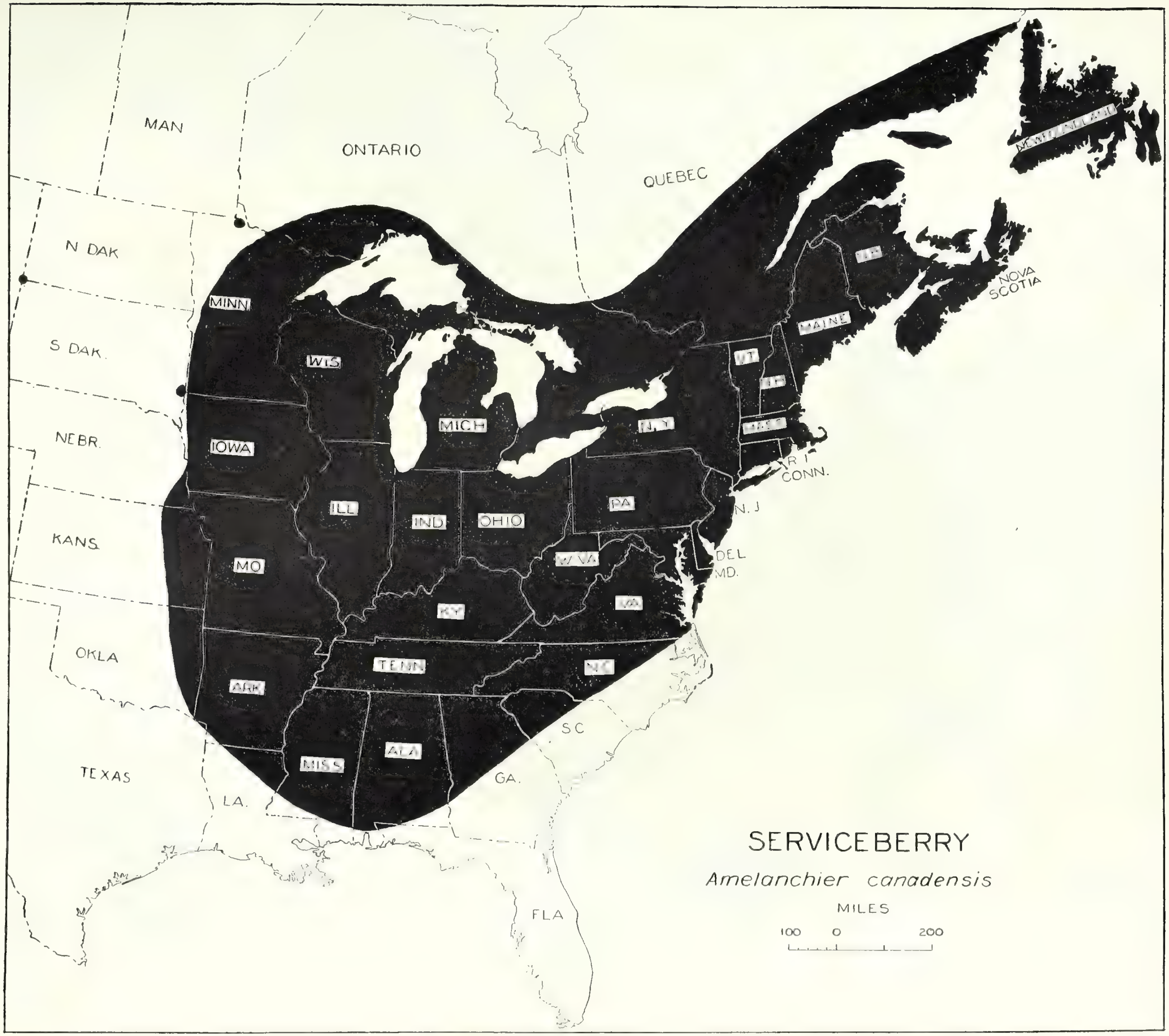
LIQUIDAMBAR STYRACIFLUA LINNAEUS

RED GUM



Map 132

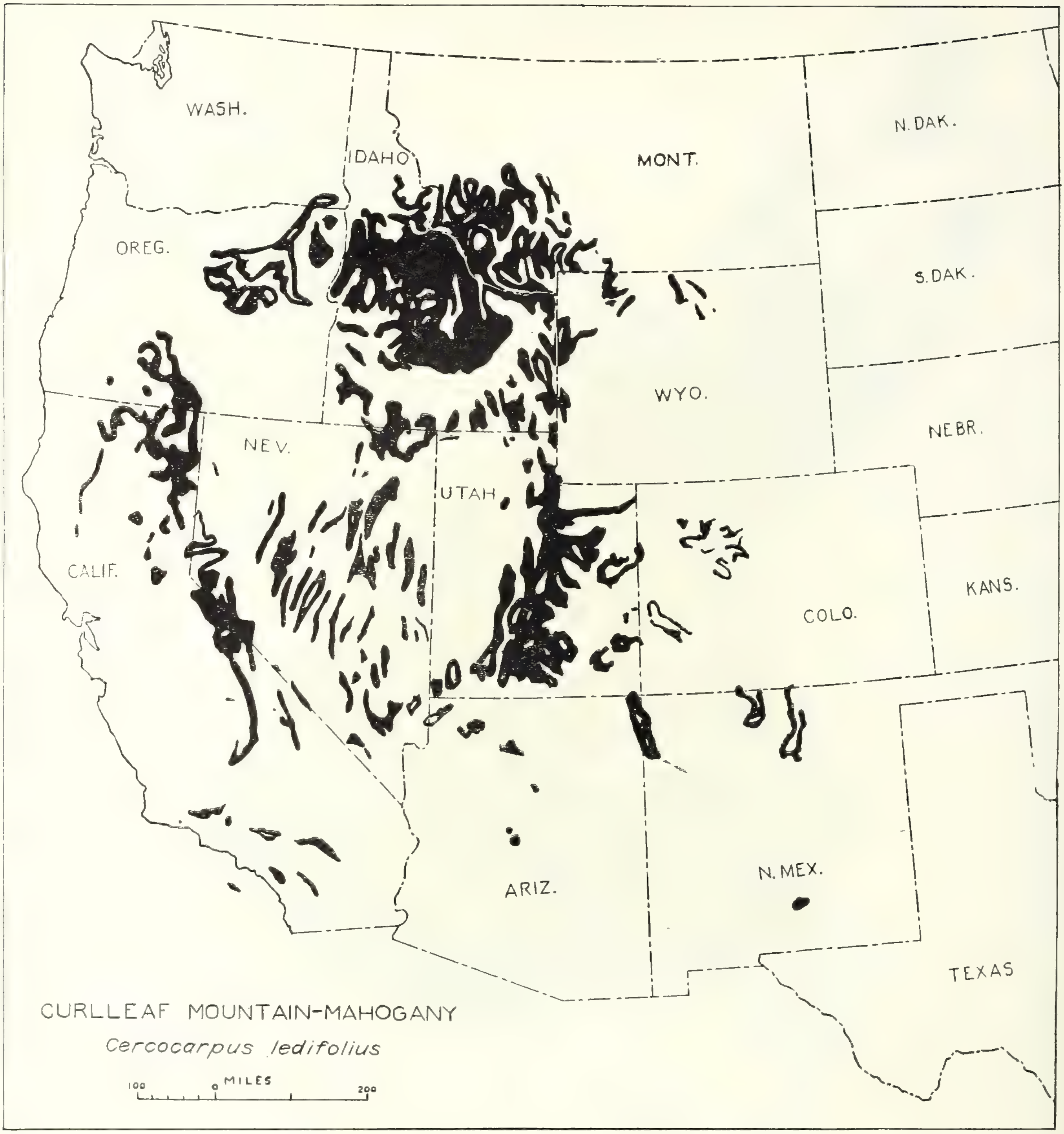
PLATANUS OCCIDENTALIS LINNAEUS SYCAMORE



Map 133

AMELANCHIER CANADENSIS (LINNAEUS) MEDICUS

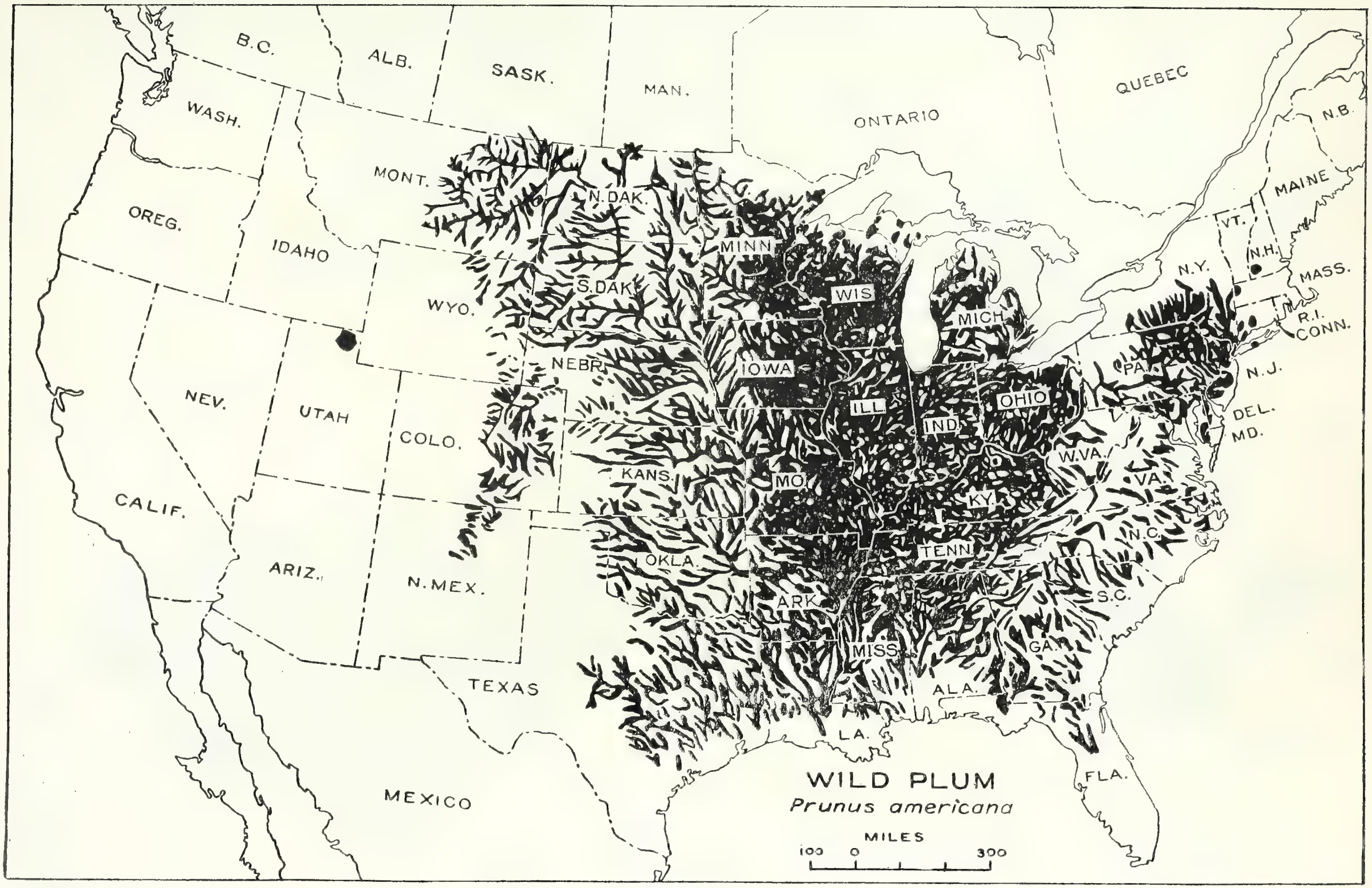
SERVICEBERRY



Map 134

CERCOCARPUS LEDIFOLIUS NUTTALL

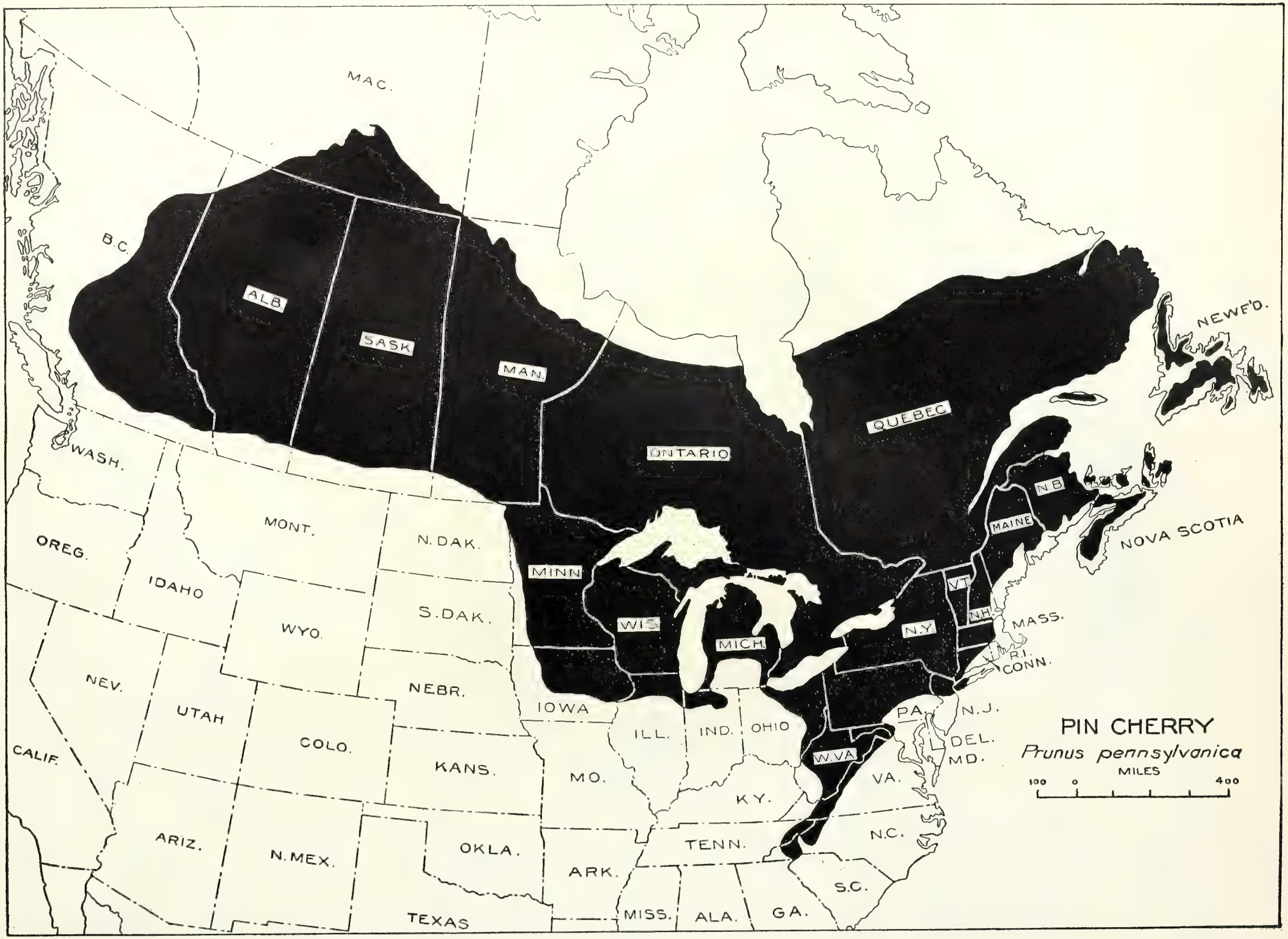
CURLLEAF MOUNTAIN-MAHOGANY



PRUNUS AMERICANA MARSHALL

Map 135

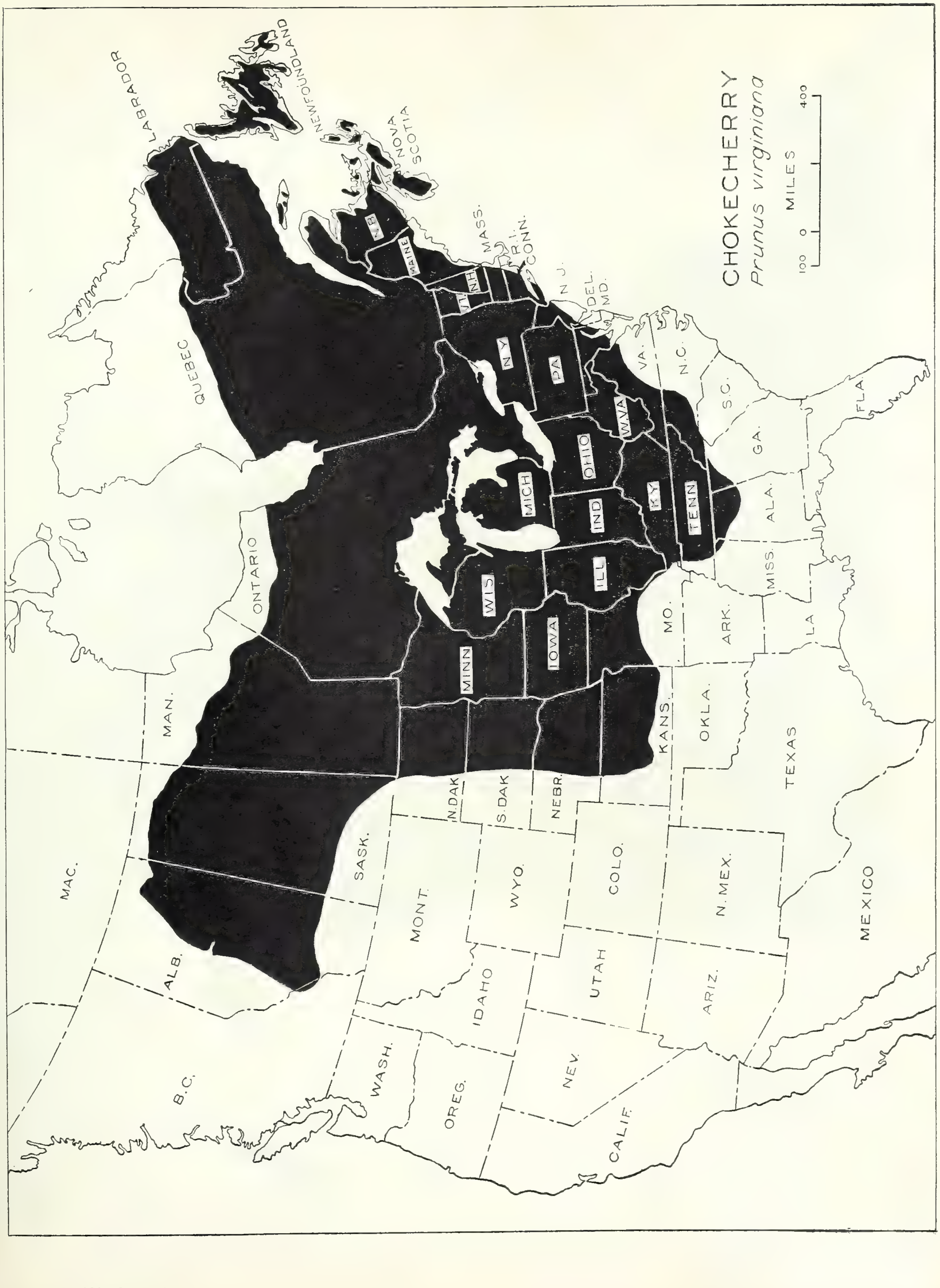
WILD PLUM



PRUNUS PENNSYLVANICA LINNAEUS FILIUS

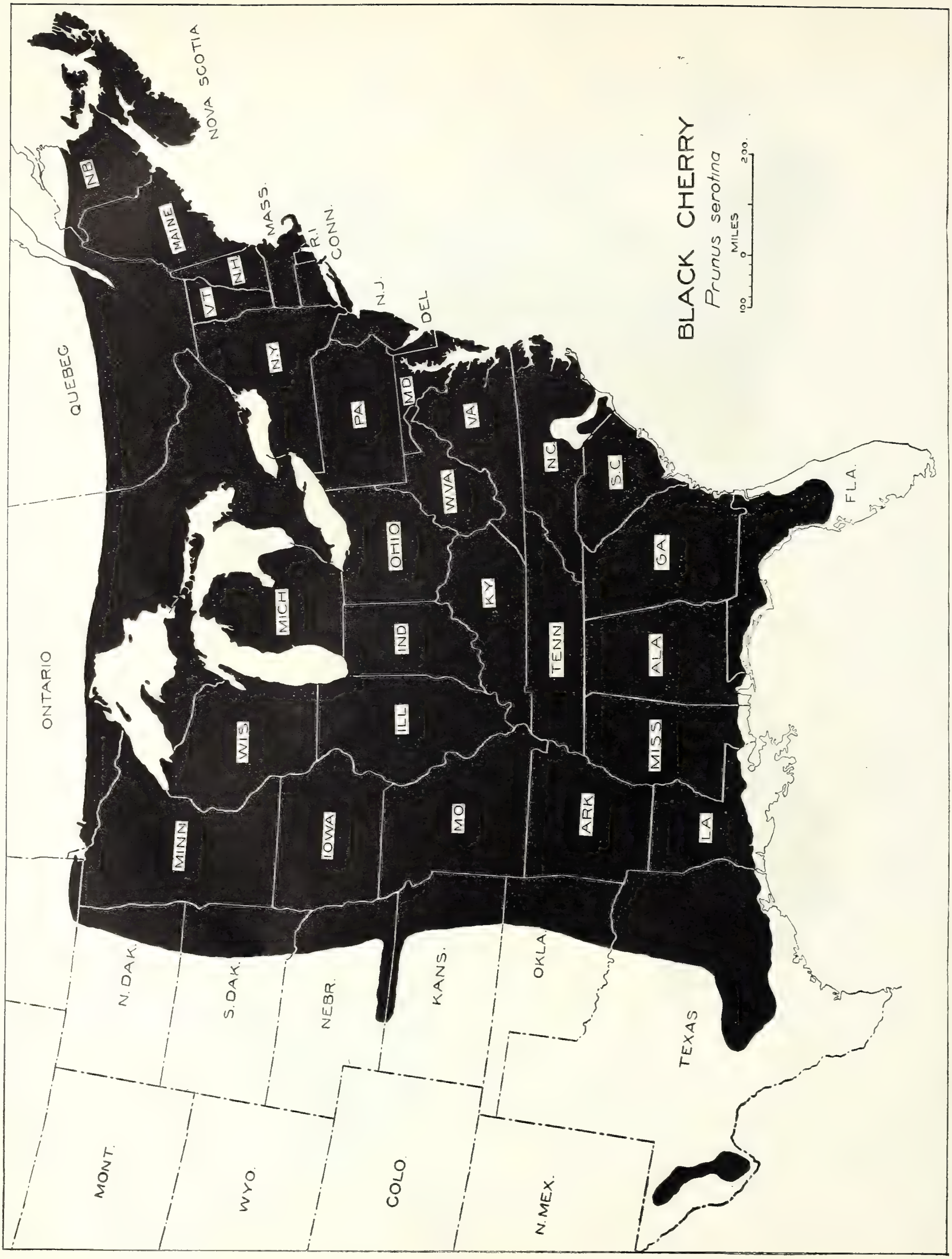
MAP 136

PIN CHERRY

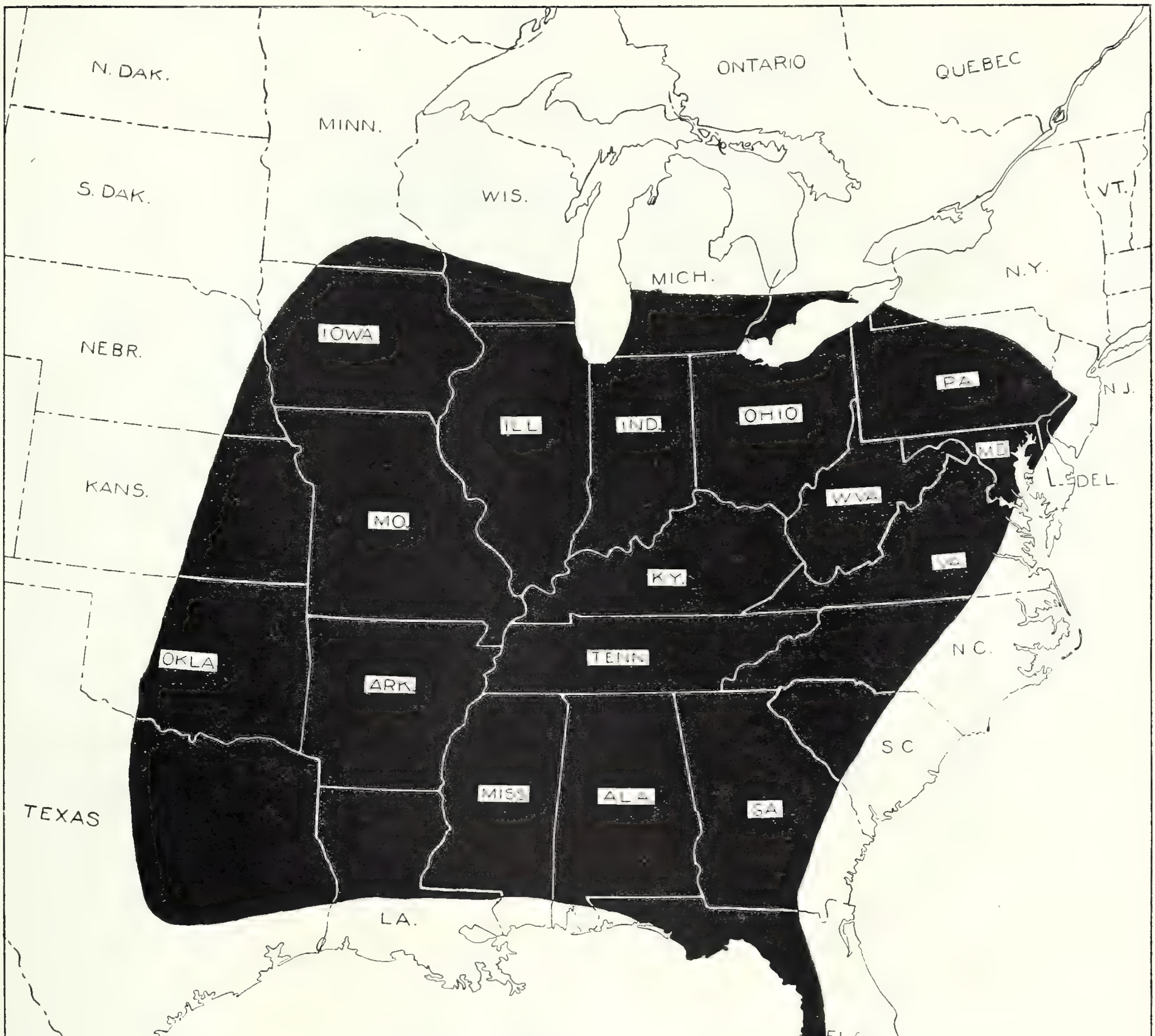


Map 137

PRUNUS VIRGINIANA LINNAEUS

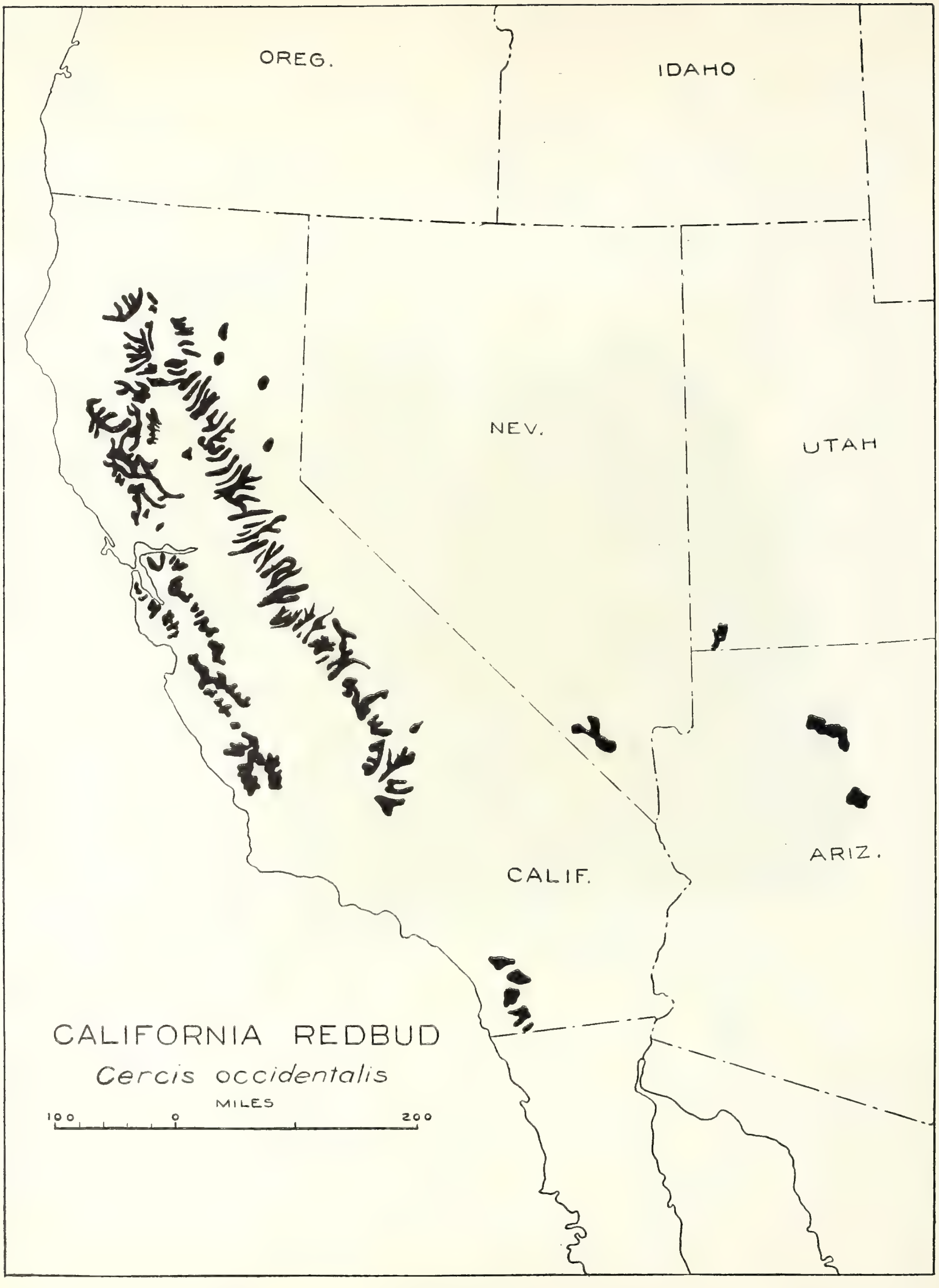

BLACK CHERRY
Prunus serotina
MILES
100 0 200
QUEBEC
ONTARIO
NOVA SCOTIA
N.B.
MAINE
N.H.
VT.
MASS.
R.I.
CONN.
N.Y.
N.J.
DEL.
MD.
PA.
VA.
W.VA.
OHIO
MICH.
IND.
ILL.
WIS.
MINN.
IOWA
MO.
KY.
TENN.
N.C.
S.C.
GA.
FLA.
ALA.
MISS.
LA.
ARK.
OKLA.
TEXAS
KANS.
NEBR.
S.DAK.
N.DAK.
MONT.
WYO.
COLO.
N.MEX.

MAP 138

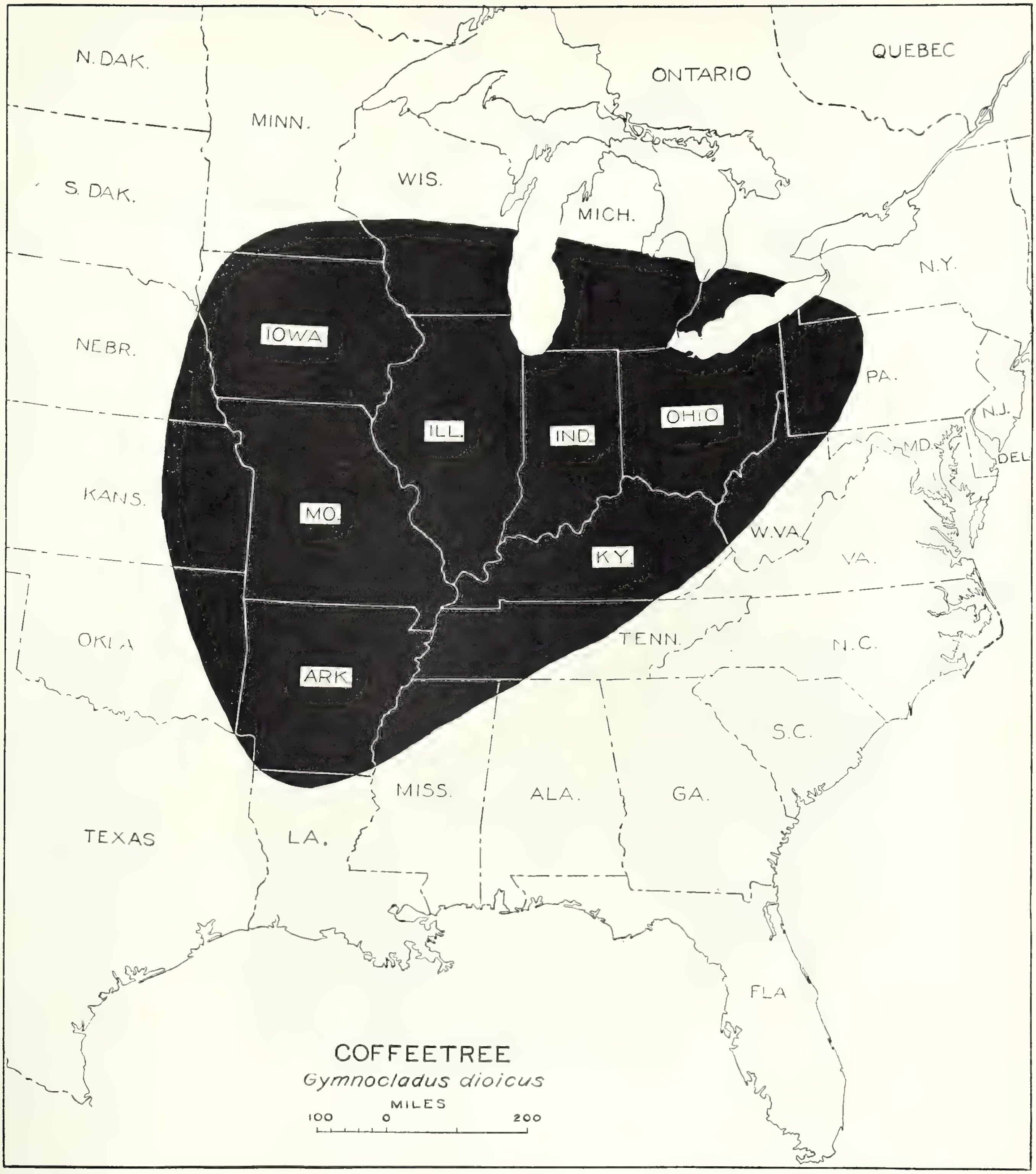


REDBUD
Cercis canadensis

Map 139


OREG.
IDAHO
NEV.
UTAH
CALIF.
ARIZ.
CALIFORNIA REDBUD
Cercis occidentalis
MILES
100
0
200

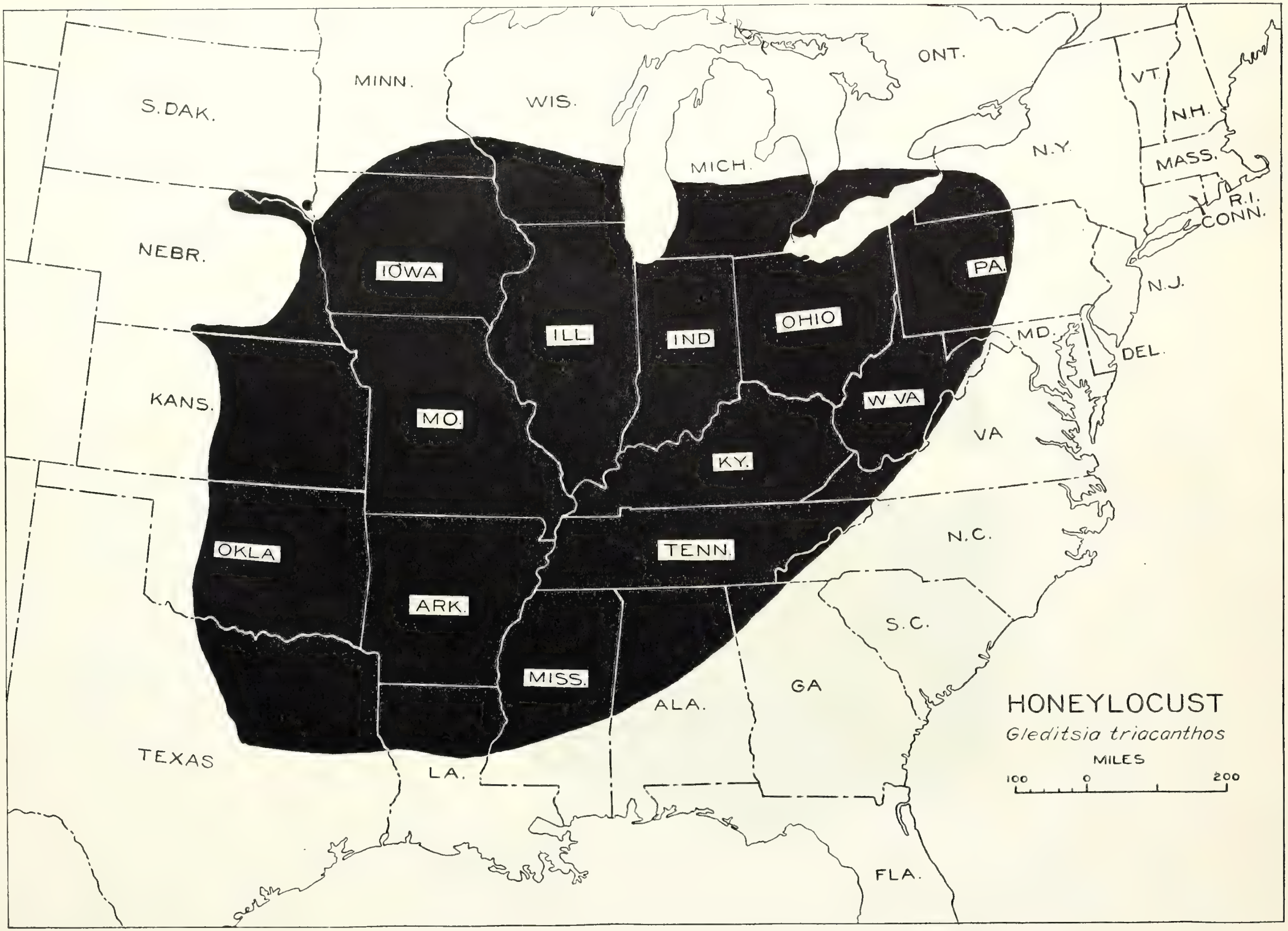
Map 140



Map 141

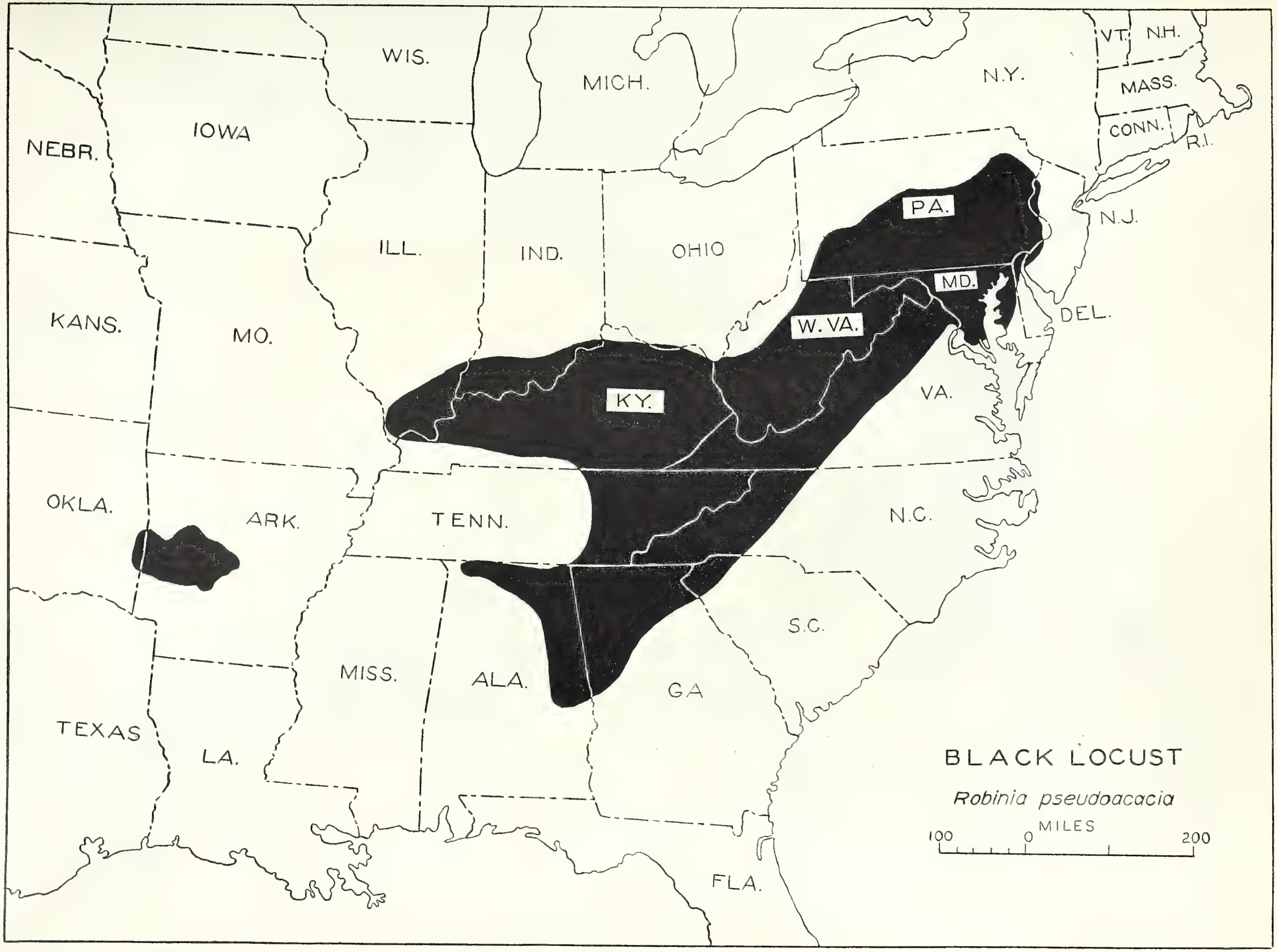
GYMNOCLADUS DIOICUS (LINNAEUS) K. KOCH

COFFEETREE



Map 142

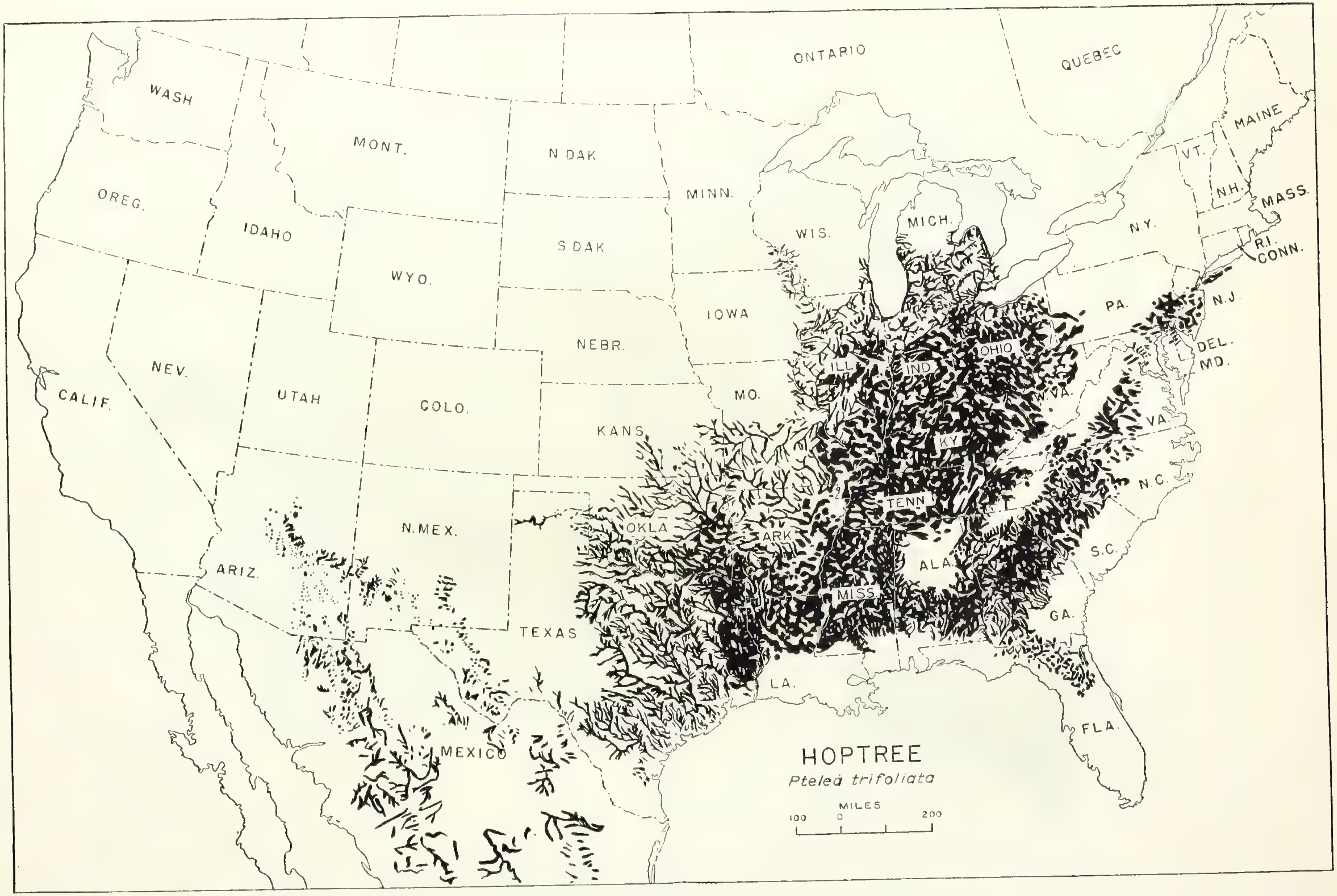
GLEDITSIA TRIACANTHOS LINNAEUS HONEYLOCUST



ROBINIA PSEUDOACACIA LINNAEUS

MAP 143

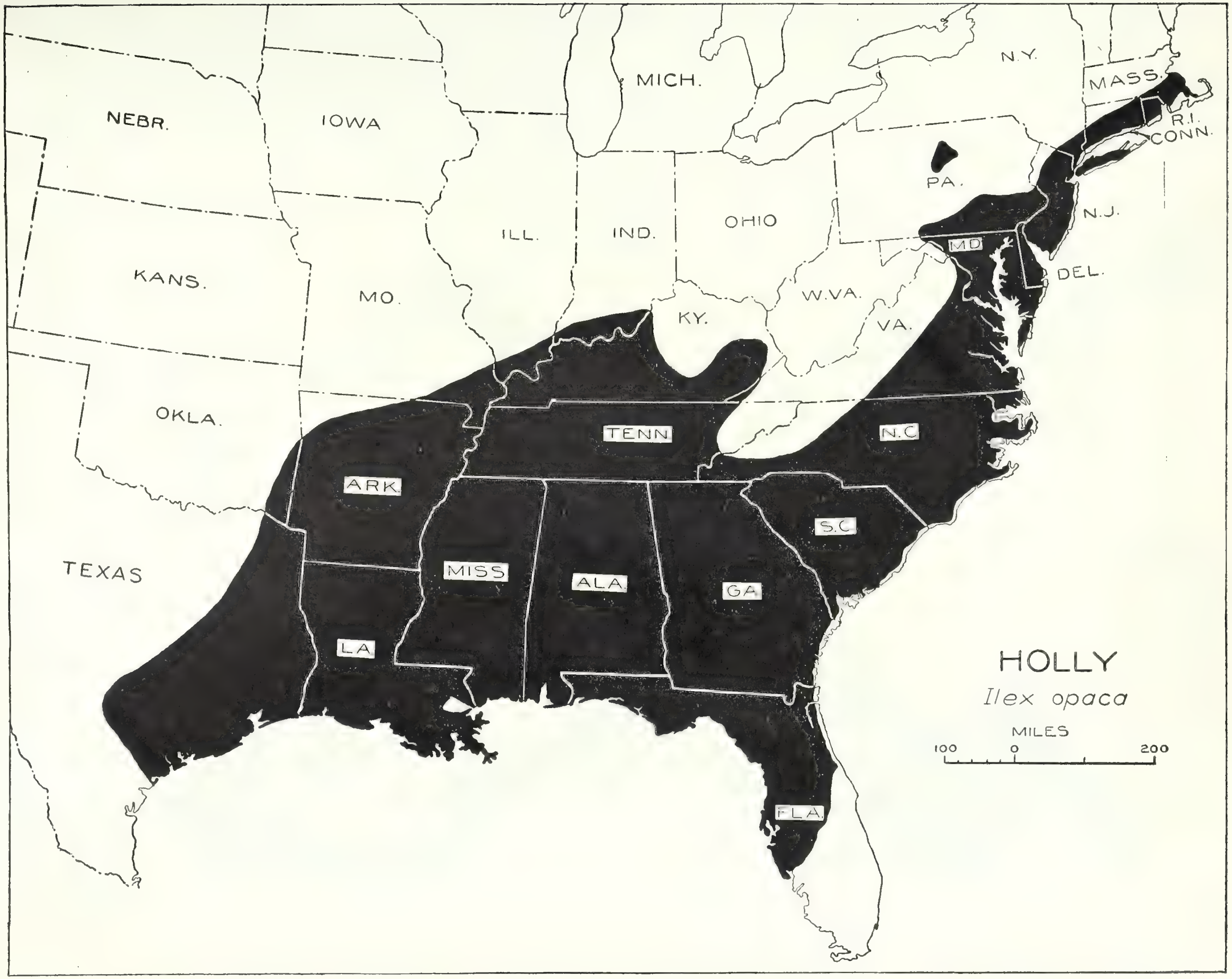
BLACK LOCUST



Map 144

PTELEA TRIFOLIATA LINNAEUS

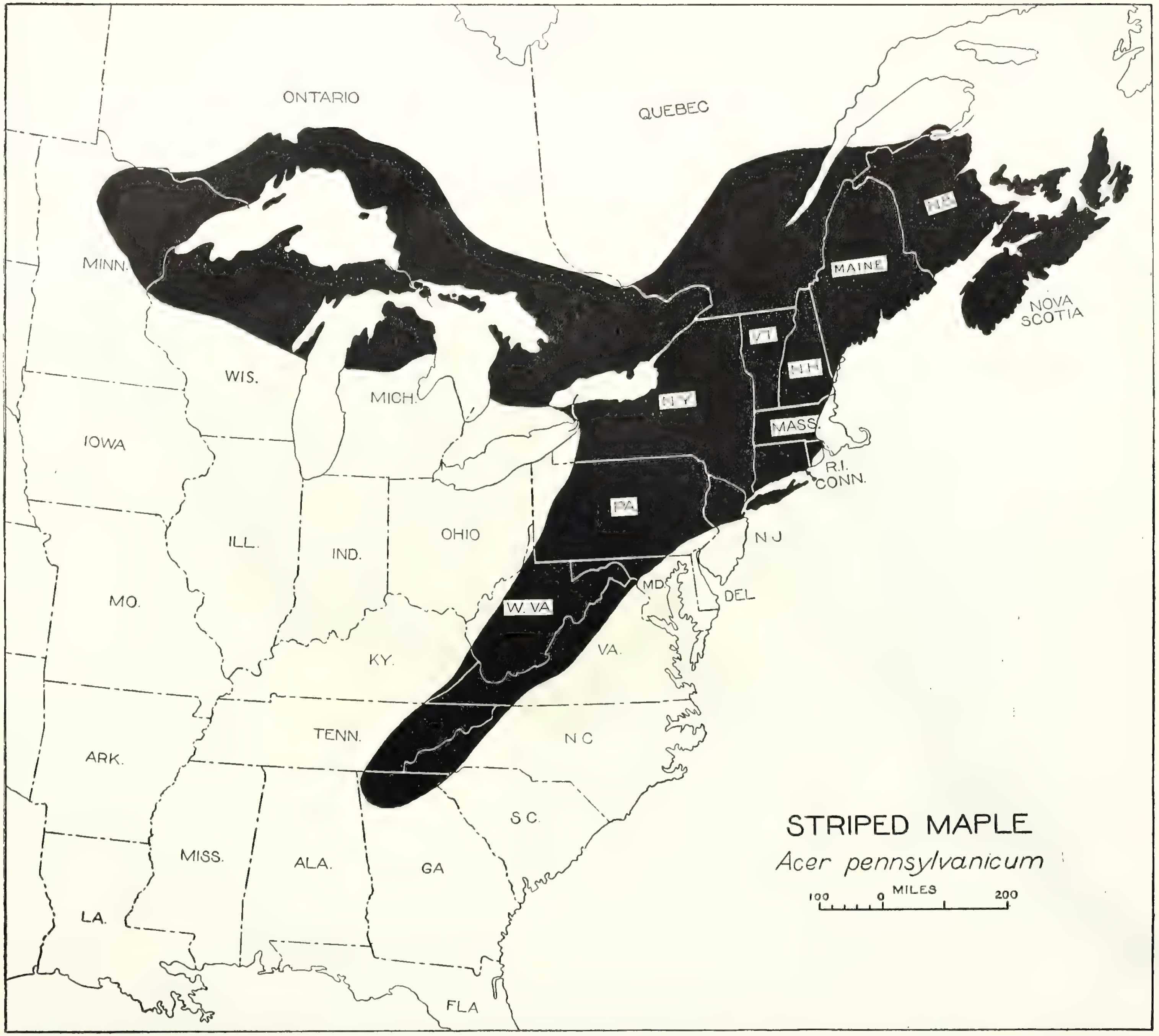
HOPTREE



MAP 145

ILEX OPACA AITON

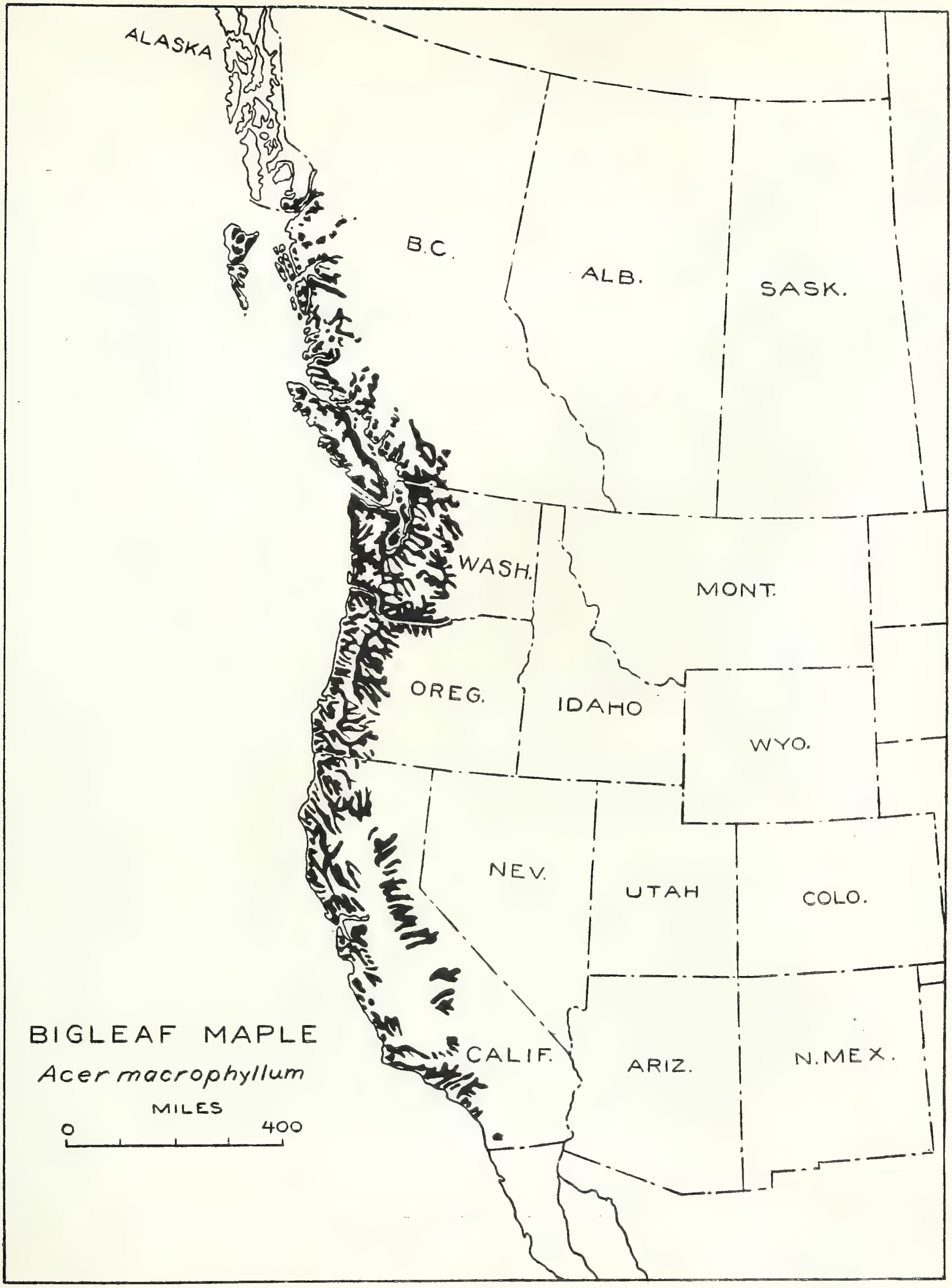
HOLLY



Map 146

ACER PENNSYLVANICUM LINNAEUS

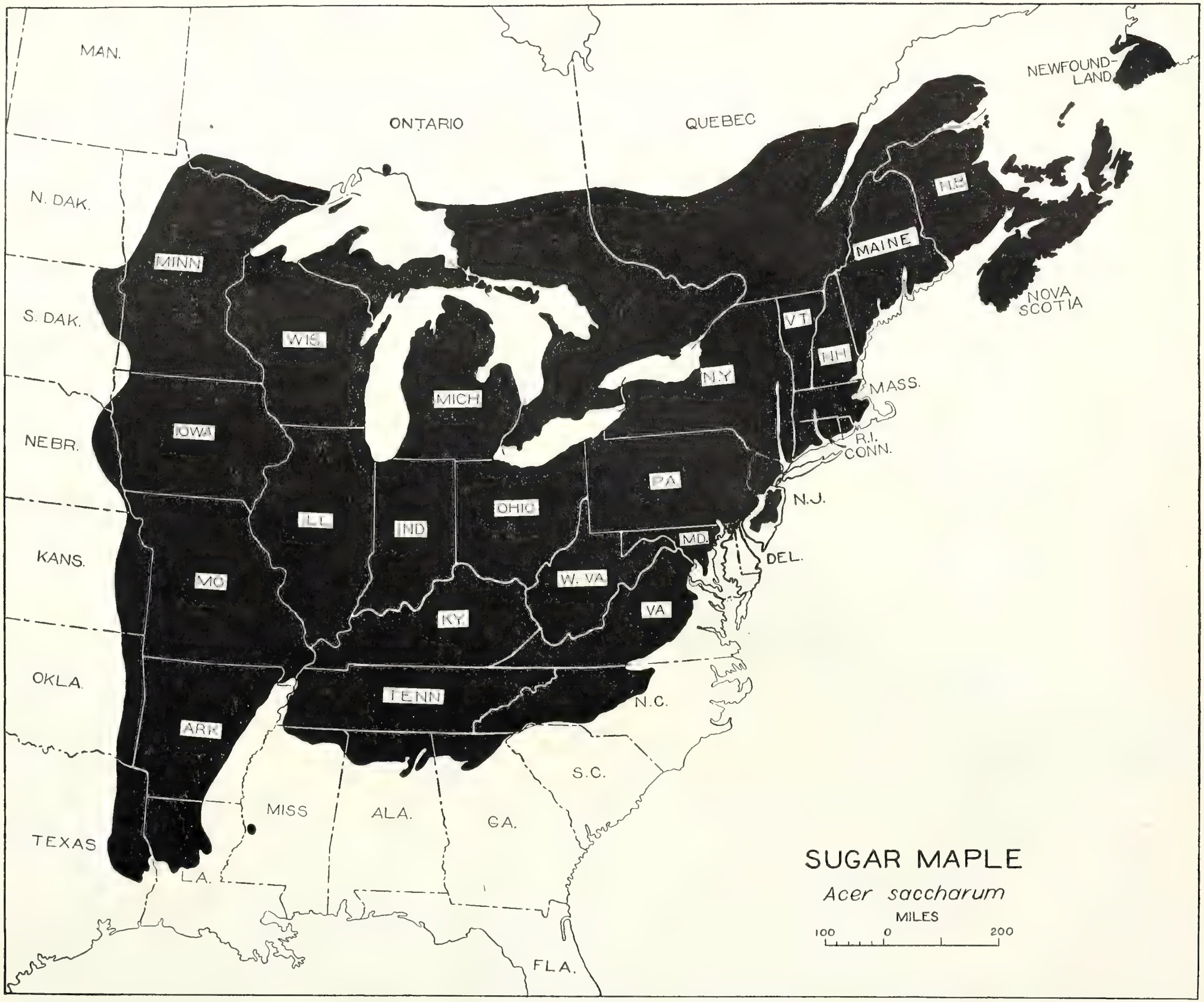
STRIPED MAPLE



Map 147

ACER MACROPHYLLUM PURSH

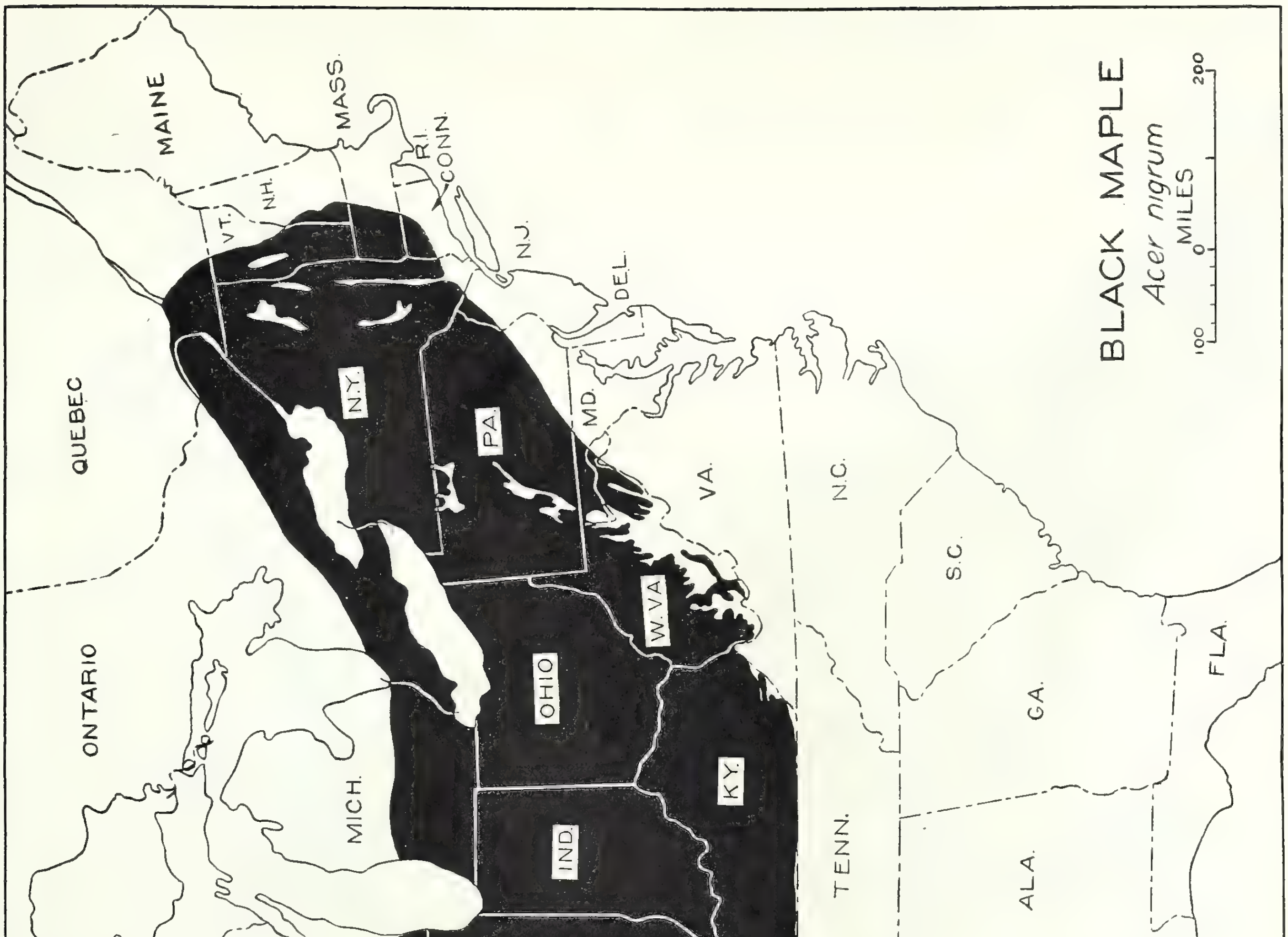
BIGLEAF MAPLE



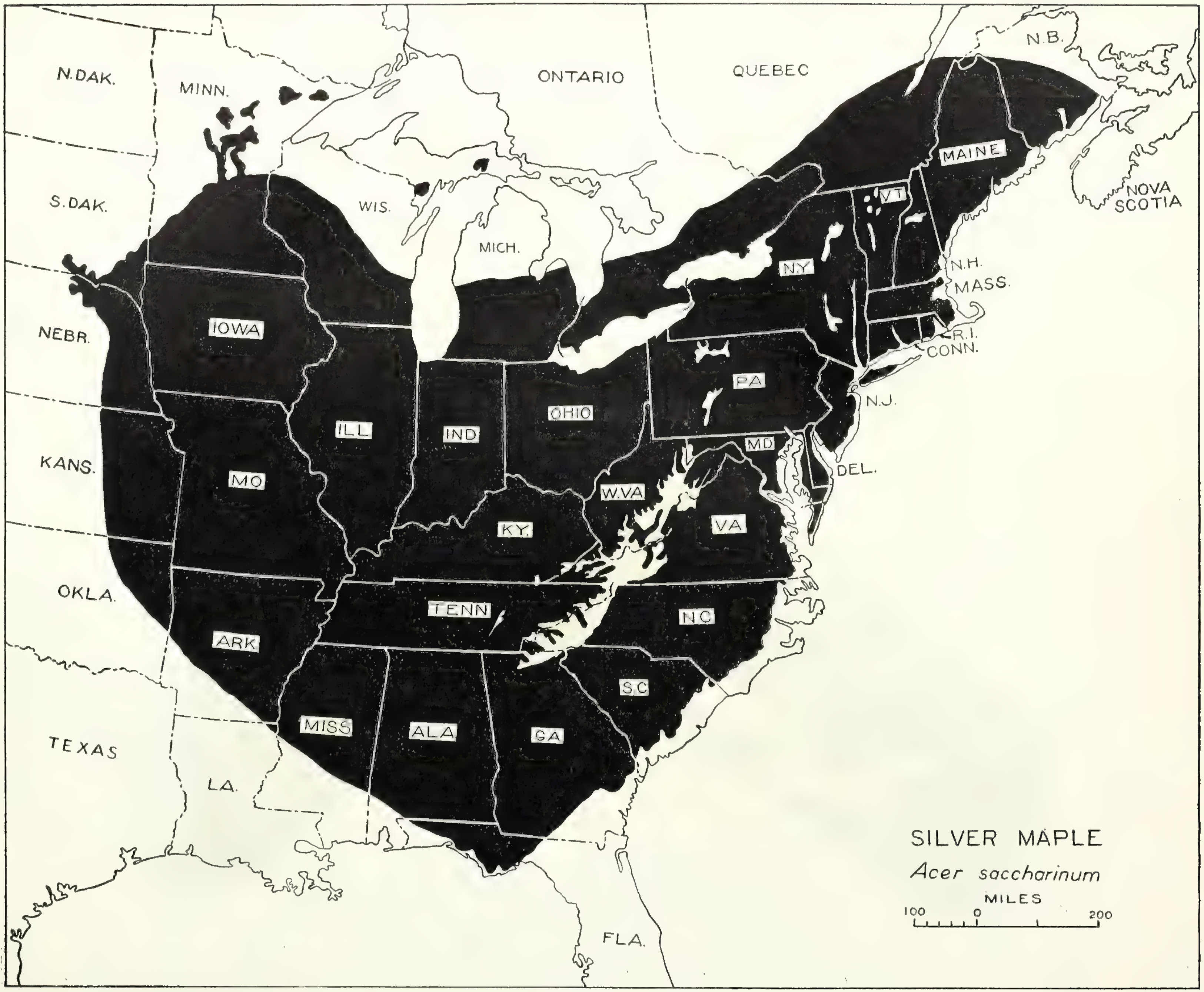
ACER SACCHARUM MARSHALL

Map 148

SUGAR MAPLE


BLACK MAPLE
Acer nigrum
MILES
100
0
200
QUEBEC
ONTARIO
MAINE
VT.
NH.
MASS.
R.I.
CONN.
N.Y.
N.J.
PA.
MD.
DEL.
VA.
W. VA.
OHIO
MICH.
IND.
KY.
N.C.
S.C.
TENN.
GA.
FLA.
ALA.
MISS.
ILL.
WIS.
MINN.
IOWA
MO.
ARK.
LA.
TEXAS
OKLA.
KANS.
NEBR.
S. DAK.
N. DAK.

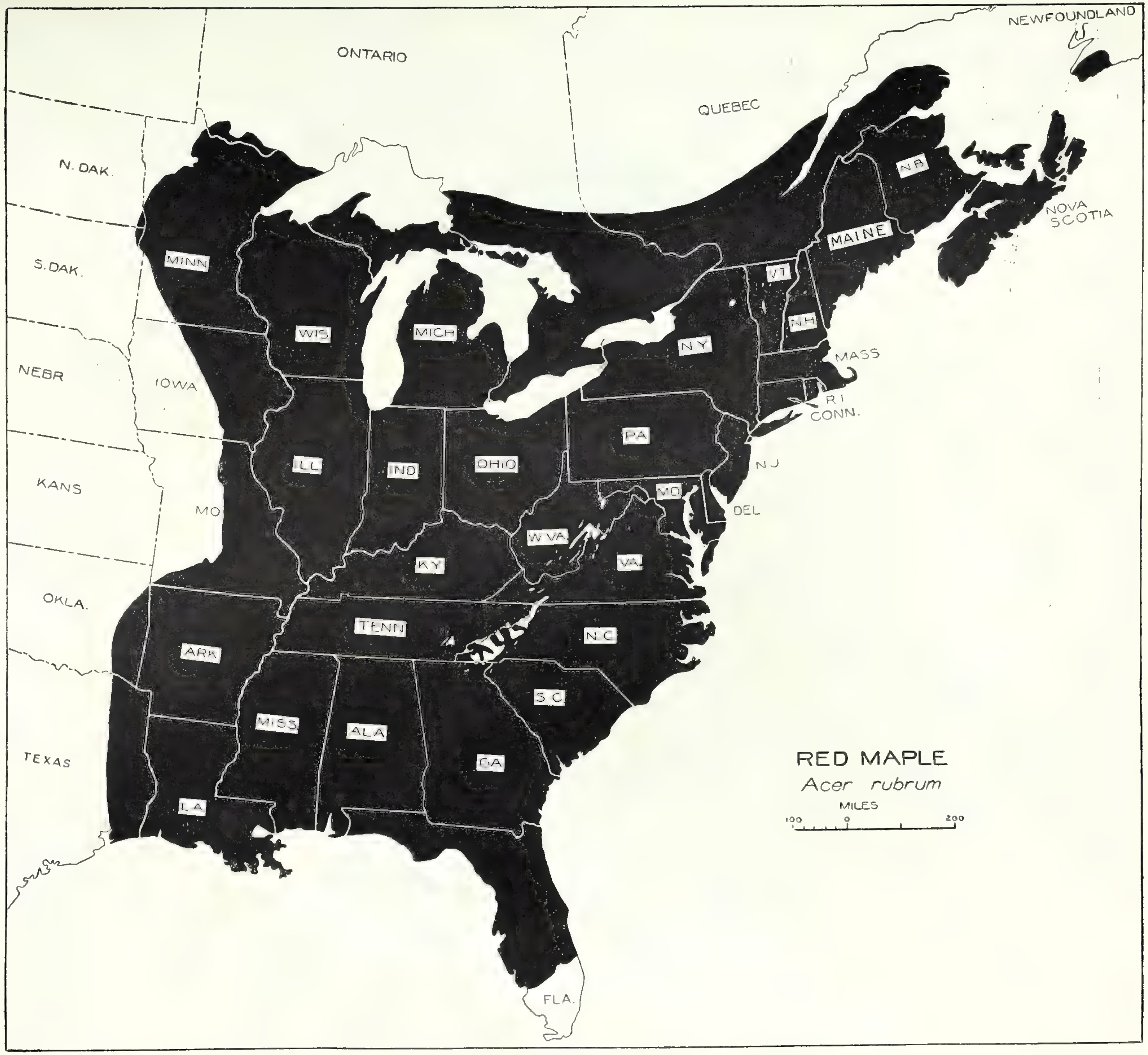
Map 149



Map 150

ACER SACCHARINUM LINNAEUS

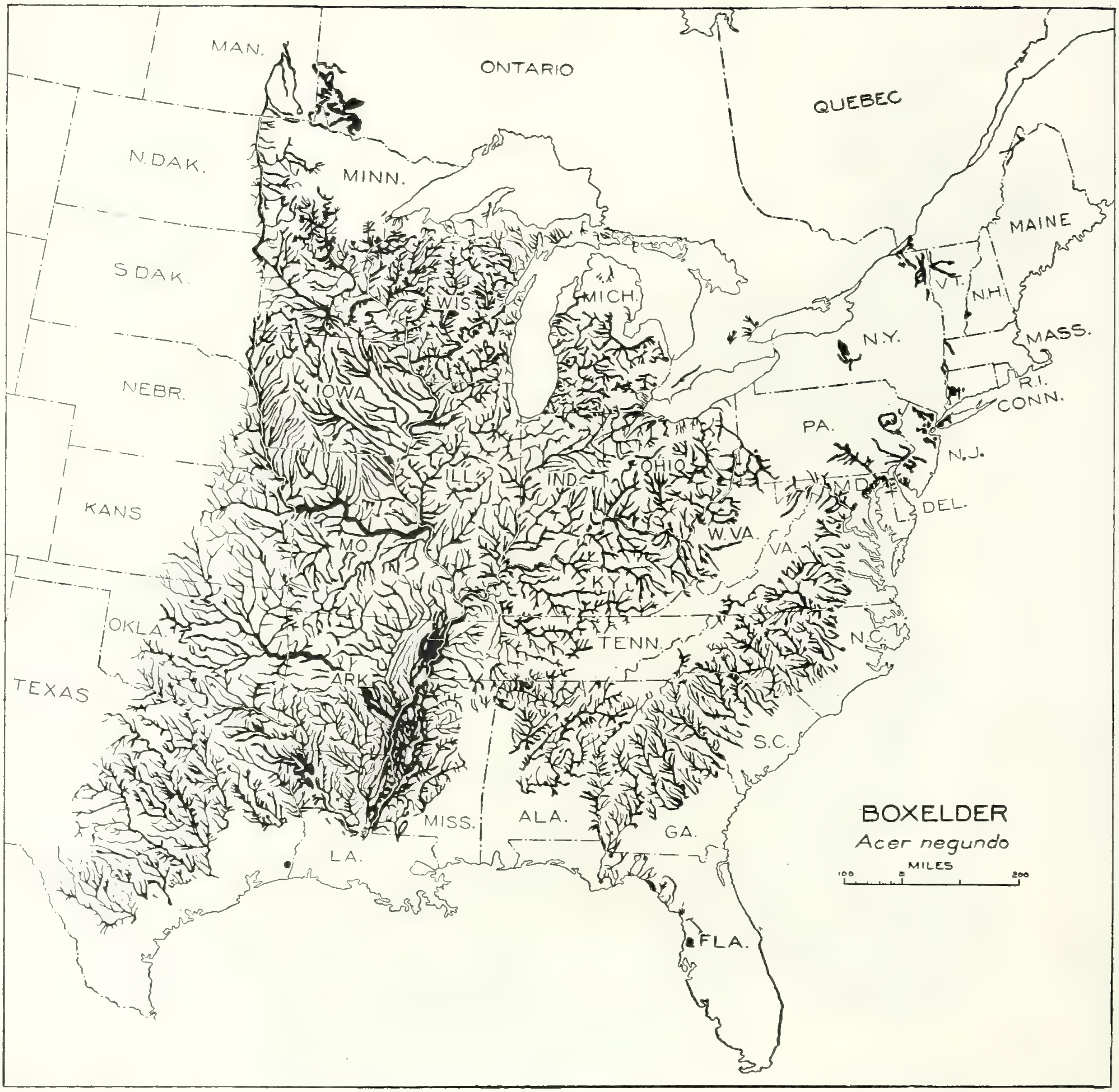
SILVER MAPLE



Map 151

ACER RUBRUM LINNAEUS

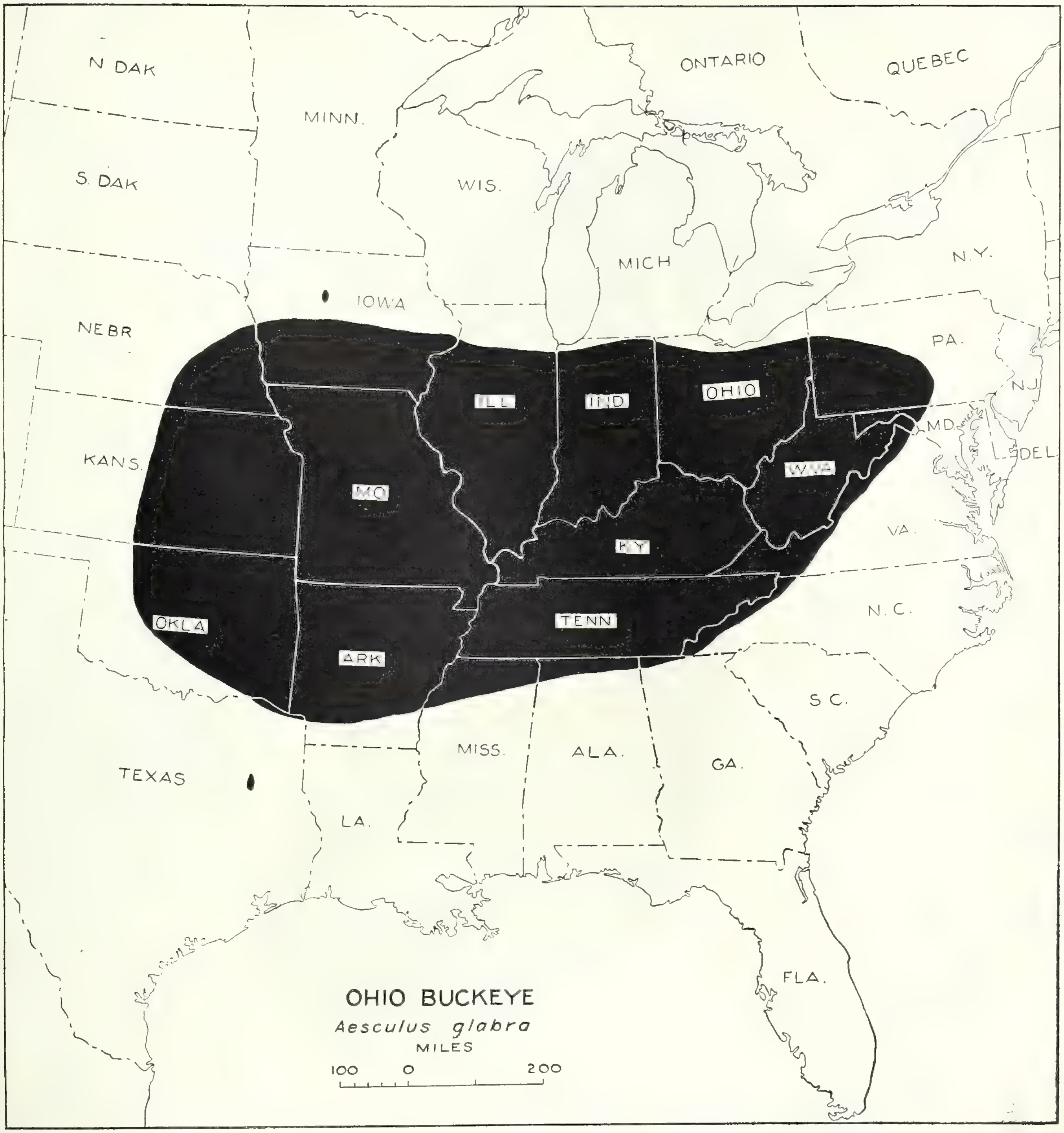
RED MAPLE



Map 152

ACER NEGUNDO LINNAEUS

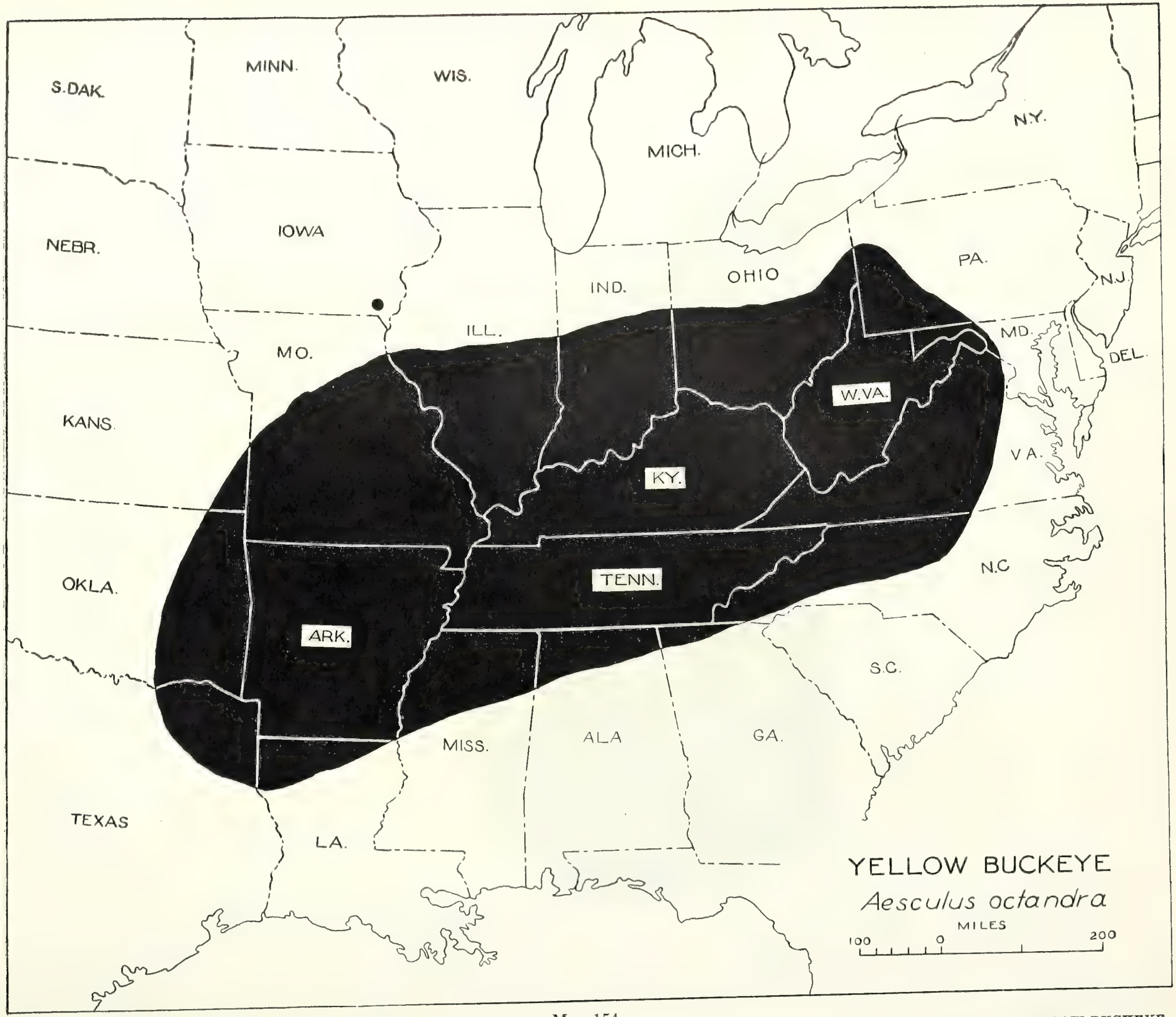
BOXELDER



MAP 153

AESCULUS GLABRA WILLDENOW

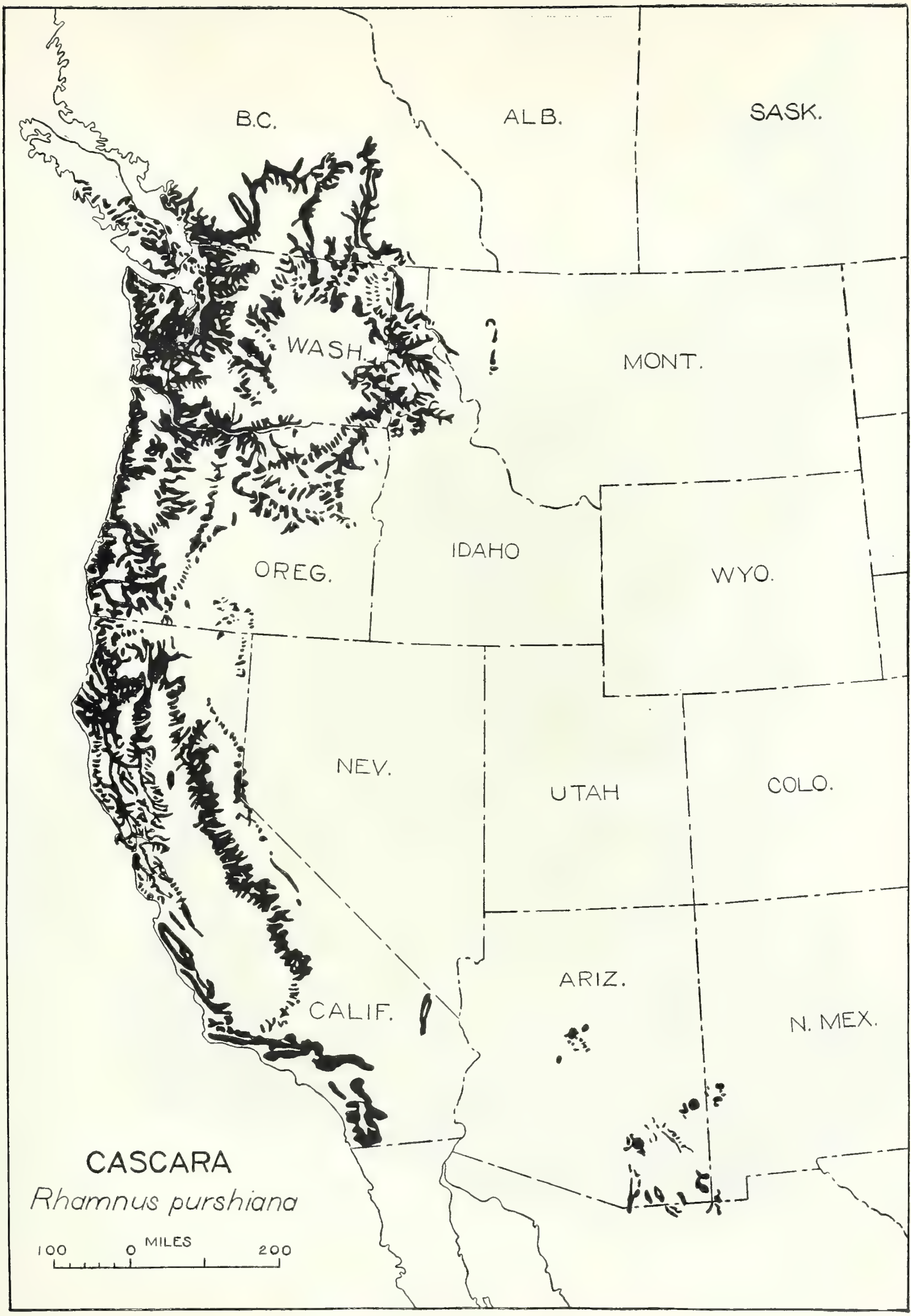
OHIO BUCKEYE



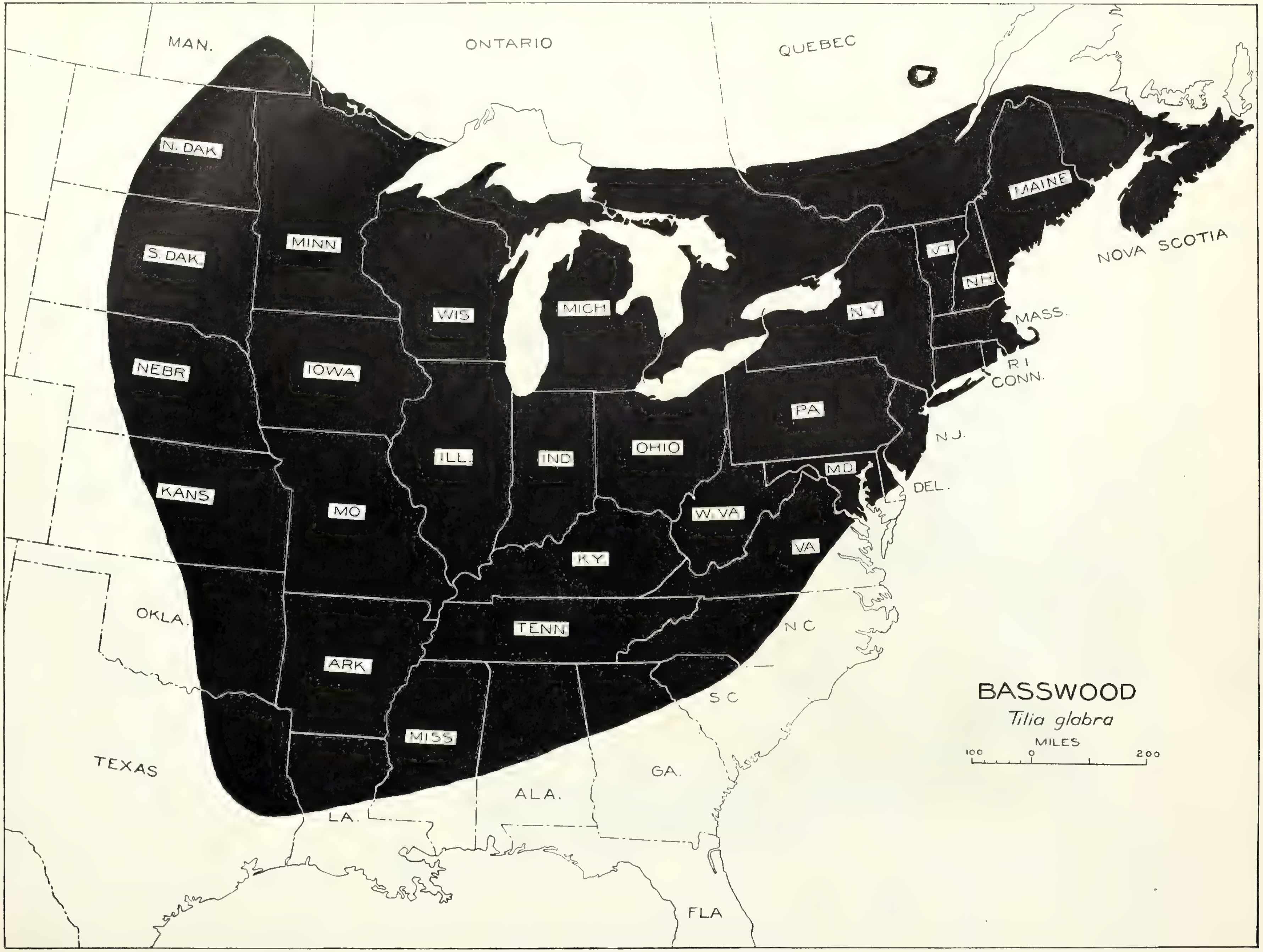
AESCULUS OCTANDRA MARSHALL

Map 154

YELLOW BUCKEYE


B.C.
ALB.
SASK.
WASH.
MONT.
IDAHO
OREG.
WYO.
NEV.
UTAH
COLO.
ARIZ.
CALIF.
N. MEX.
CASCARA
Rhamnus purshiana
100 0 MILES 200

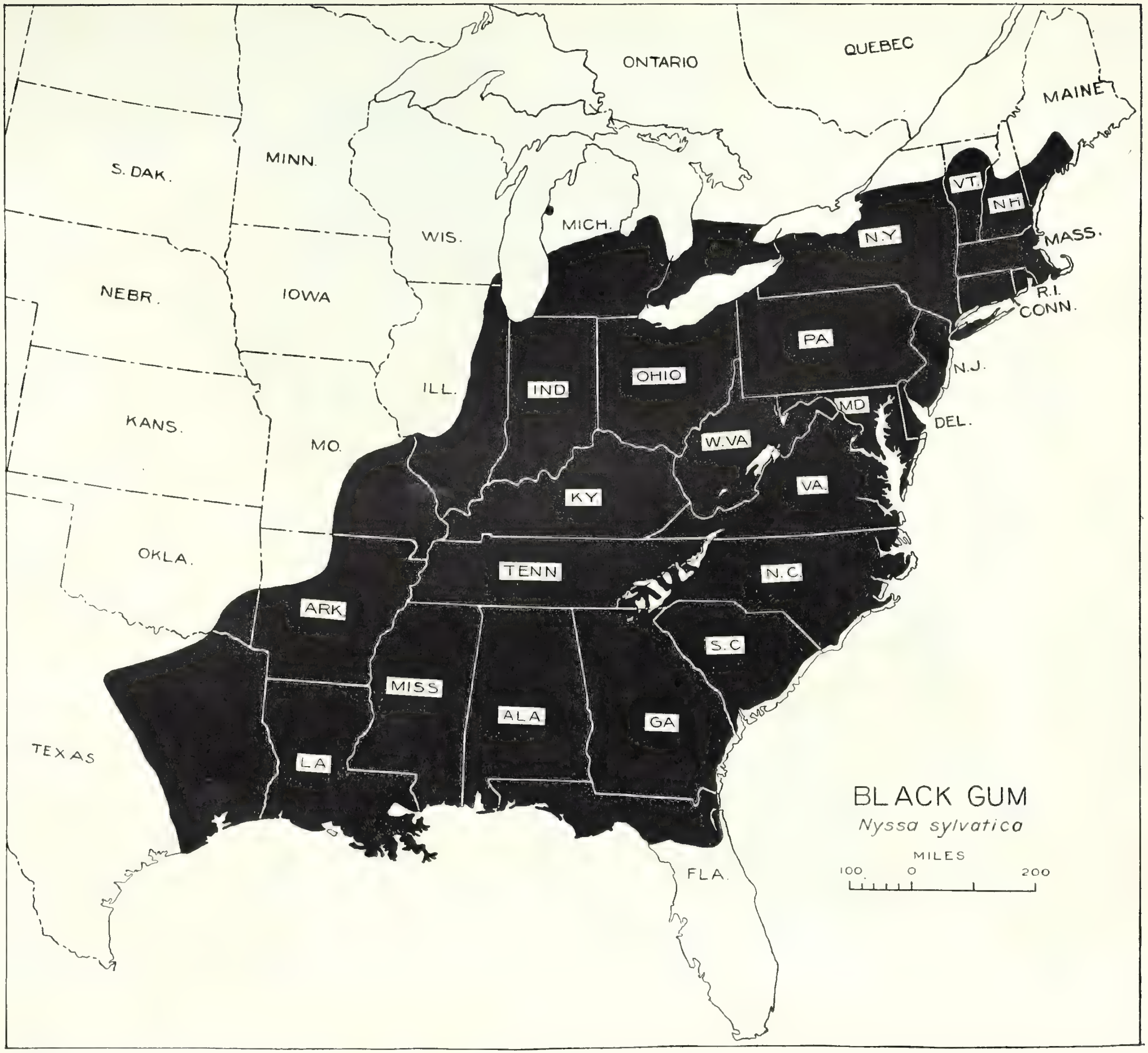
Map 155



Map 156

TILIA GLABRA VENTENAT

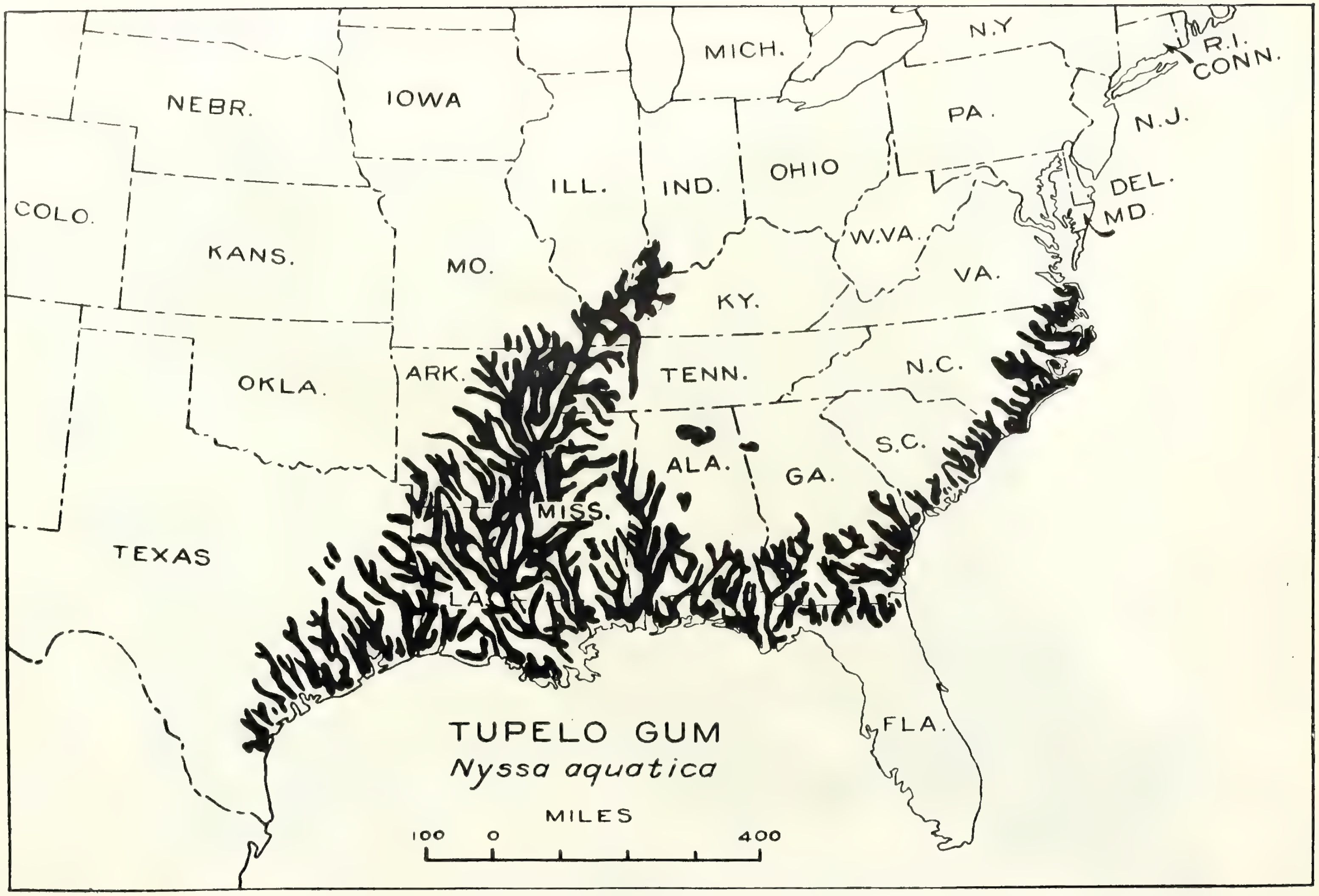
BASSWOOD



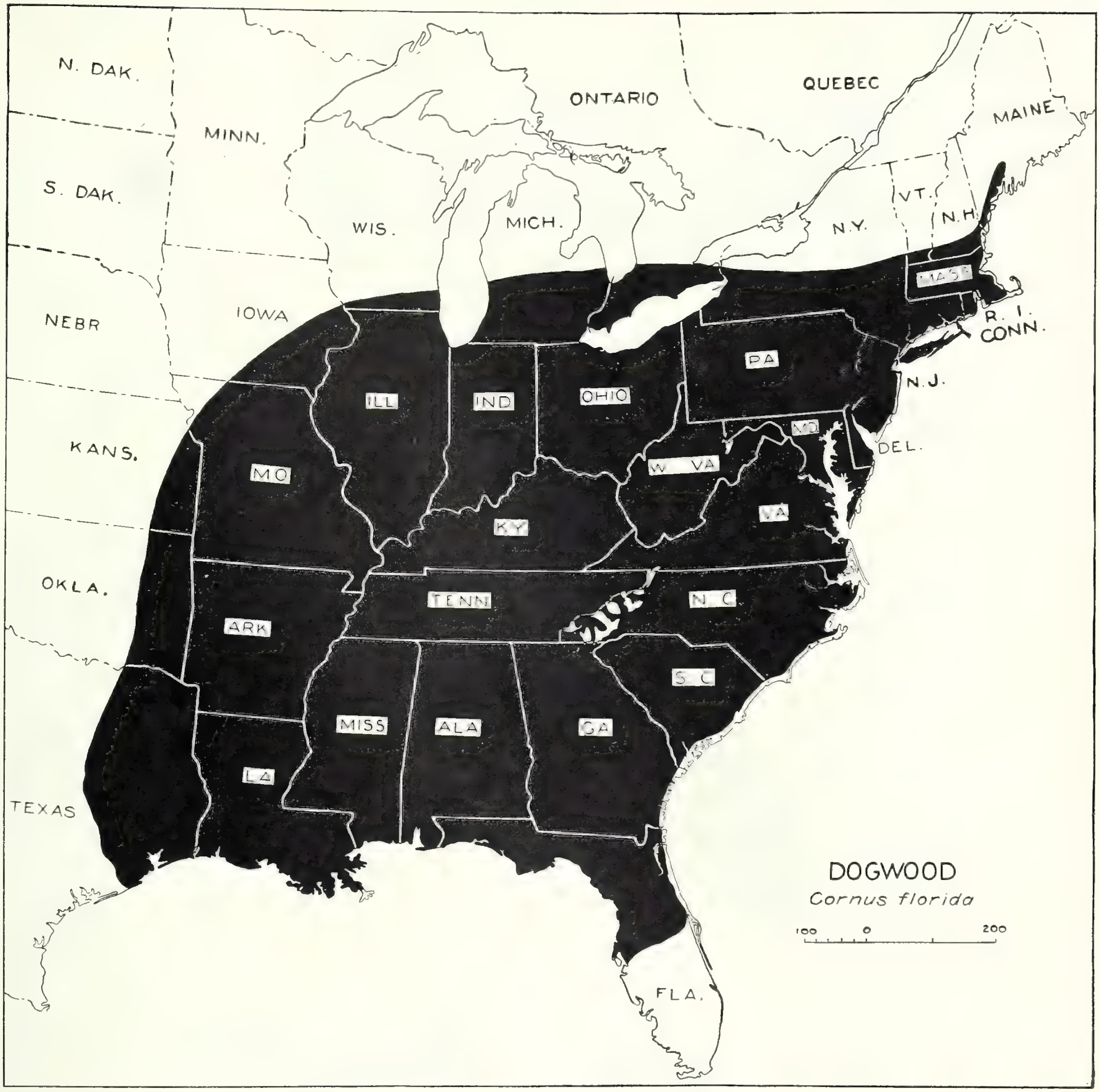
NYSSA SYLVATICA MARSHALL

Map 157

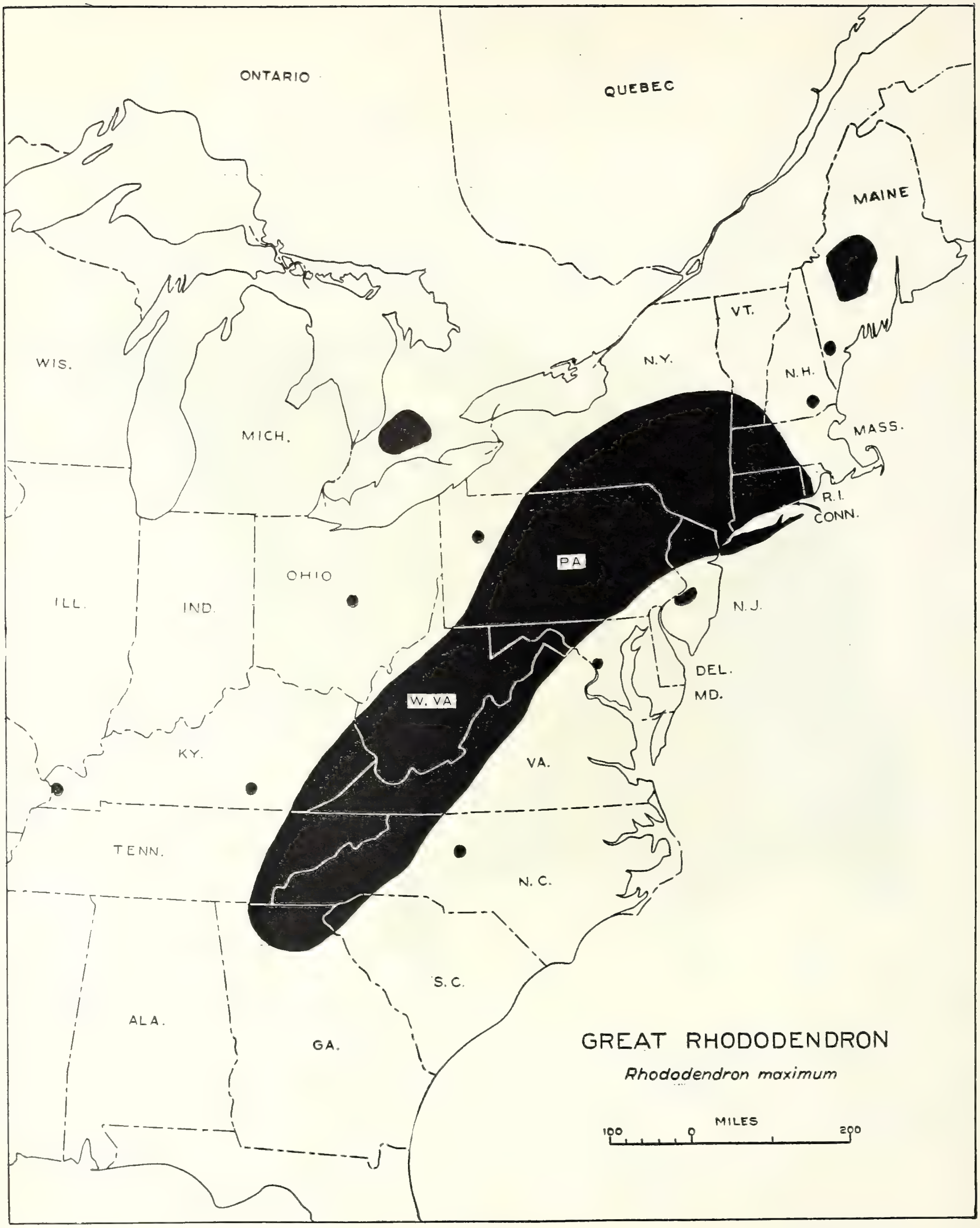
BLACK GUM



NYSSA AQUATICA LINNAEUS — MAP 158 — TUPELO GUM

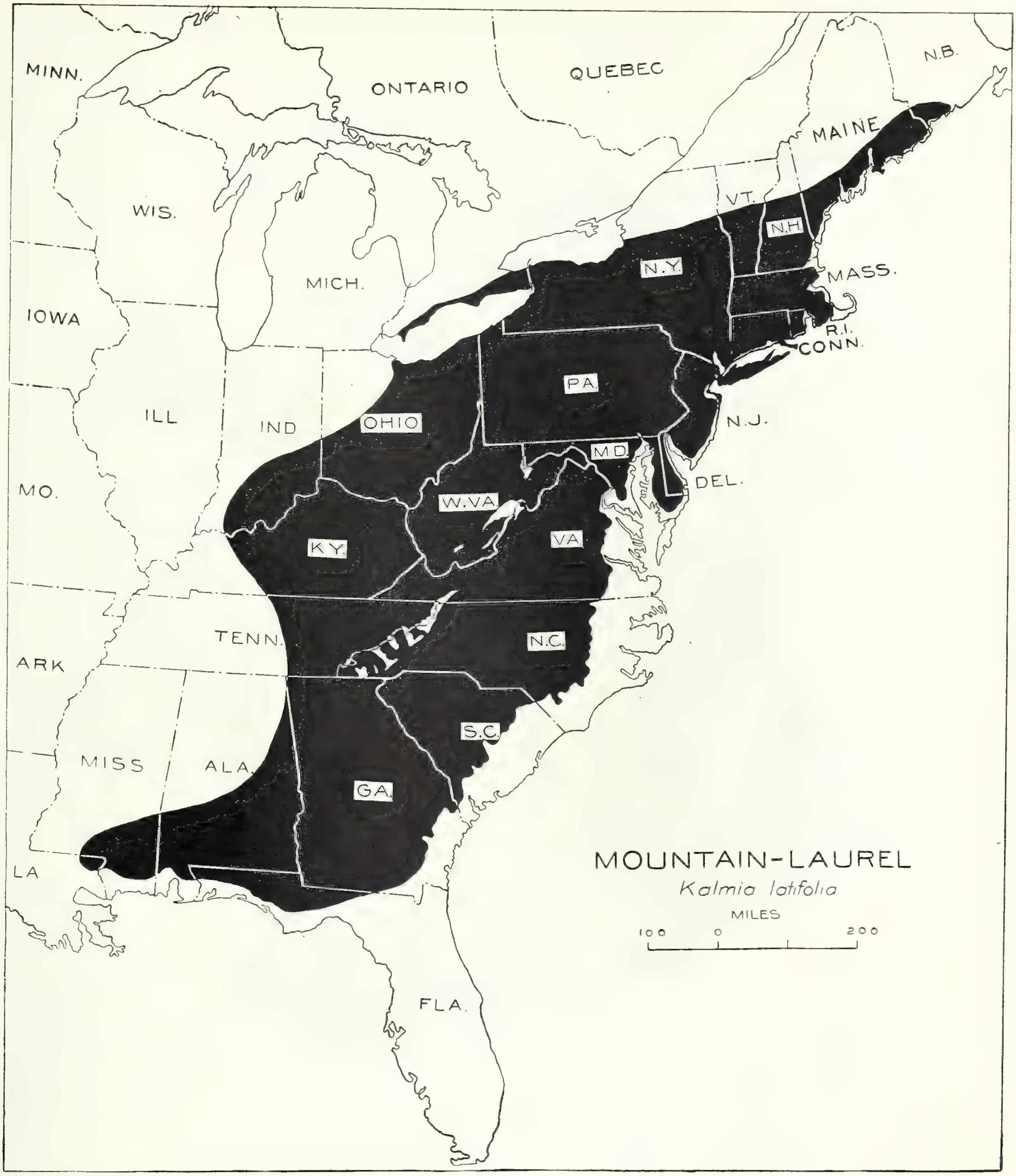

N. DAK.
S. DAK.
NEBR
KANS.
OKLA.
TEXAS
MINN.
IOWA
WIS.
MICH.
ONTARIO
QUEBEC
MAINE
N.Y.
VT.
N.H.
MASS
R.I.
CONN.
N.J.
DEL.
PA
MD
OHIO
IND
ILL
MO
KY
W. VA
VA
N.C
TENN
ARK
S.C
MISS
ALA
GA
LA
FLA.
DOGWOOD
Cornus florida
100 0 200

Map 159



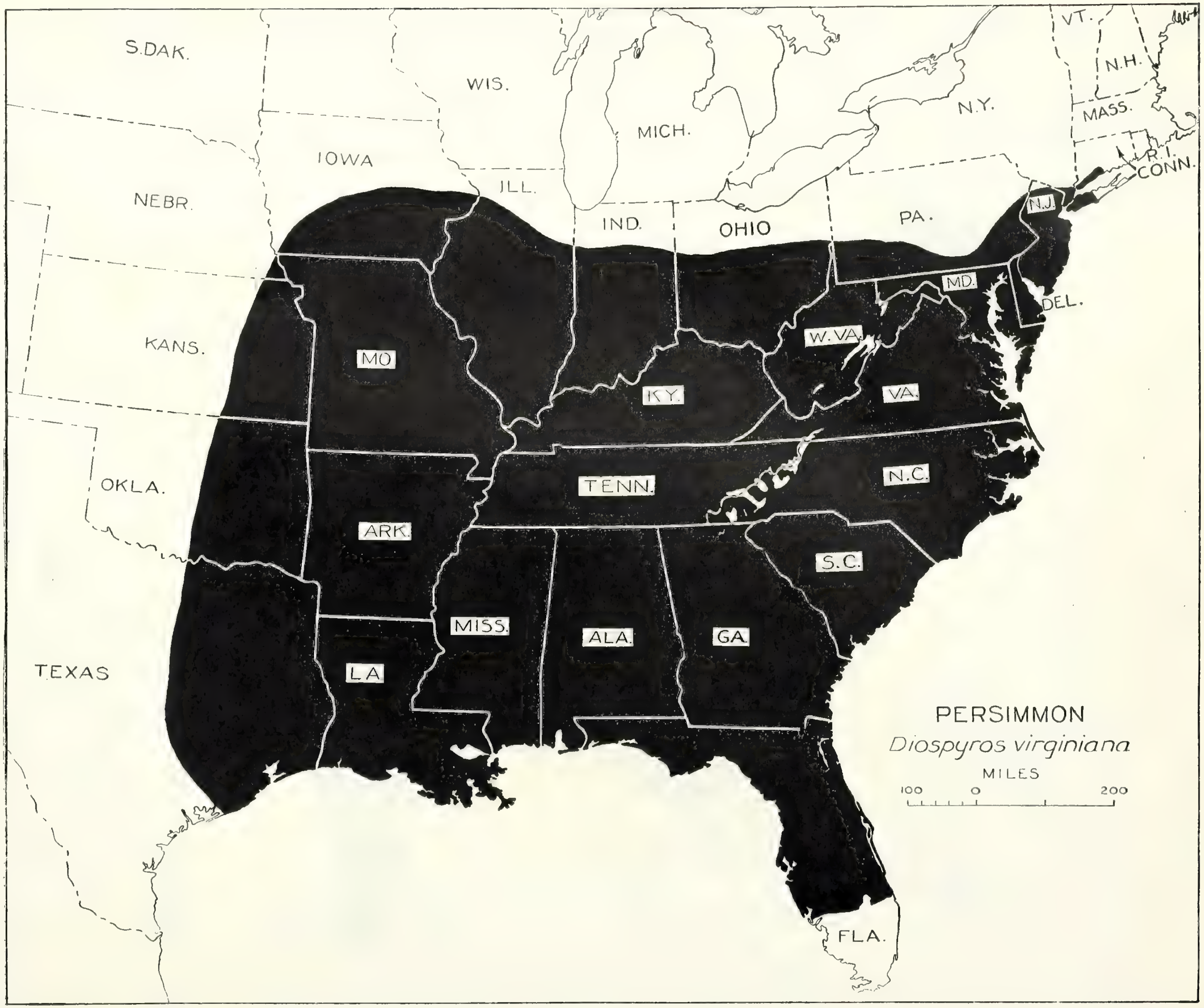
Map 160

RHODODENDRON MAXIMUM LINNAEUS GREAT RHODODENDRON

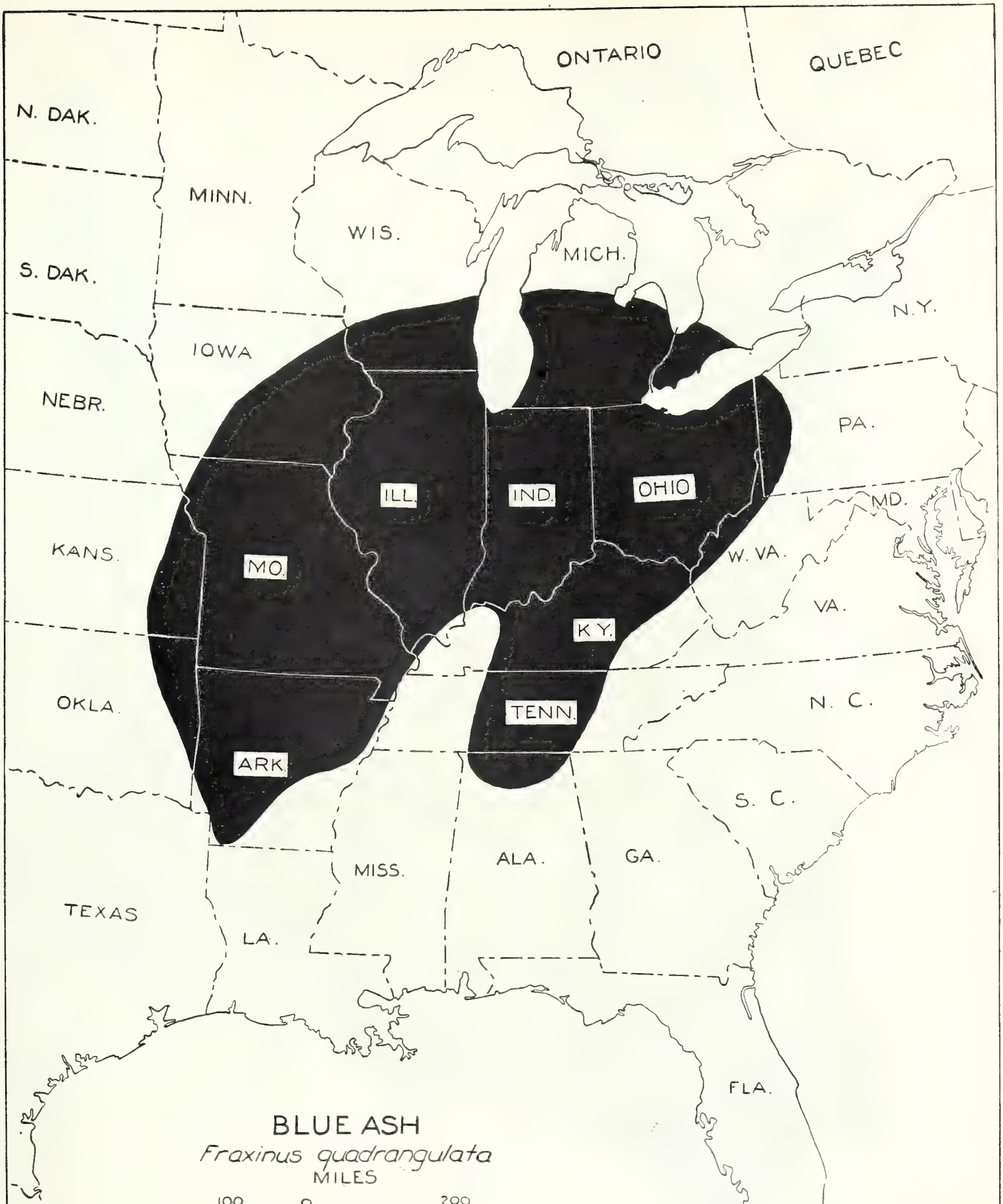


Map 161

KALMIA LATIFOLIA LINNAEUS MOUNTAIN-LAUREL

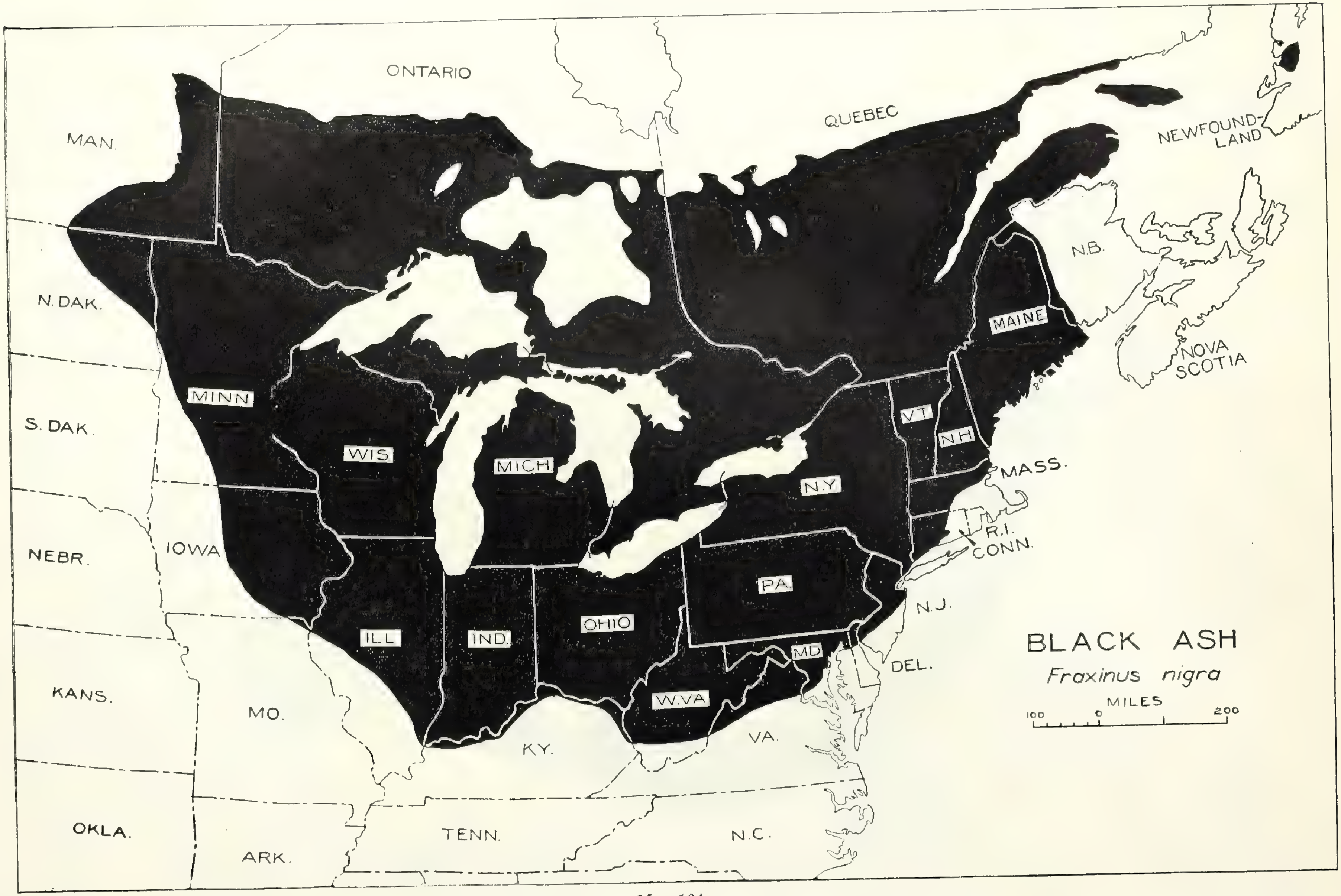

S.DAK.
WIS.
VT.
N.H.
MASS.
N.Y.
R.I.
CONN.
MICH.
IOWA
NEBR.
ILL.
IND.
OHIO
PA.
N.J.
MD.
DEL.
KANS.
MO
W.VA.
KY.
VA.
OKLA.
TENN.
N.C.
ARK.
S.C.
MISS.
ALA.
GA.
TEXAS
LA
FLA.
PERSIMMON
Diospyros virginiana
MILES
100
0
200

Map 162



Map 163

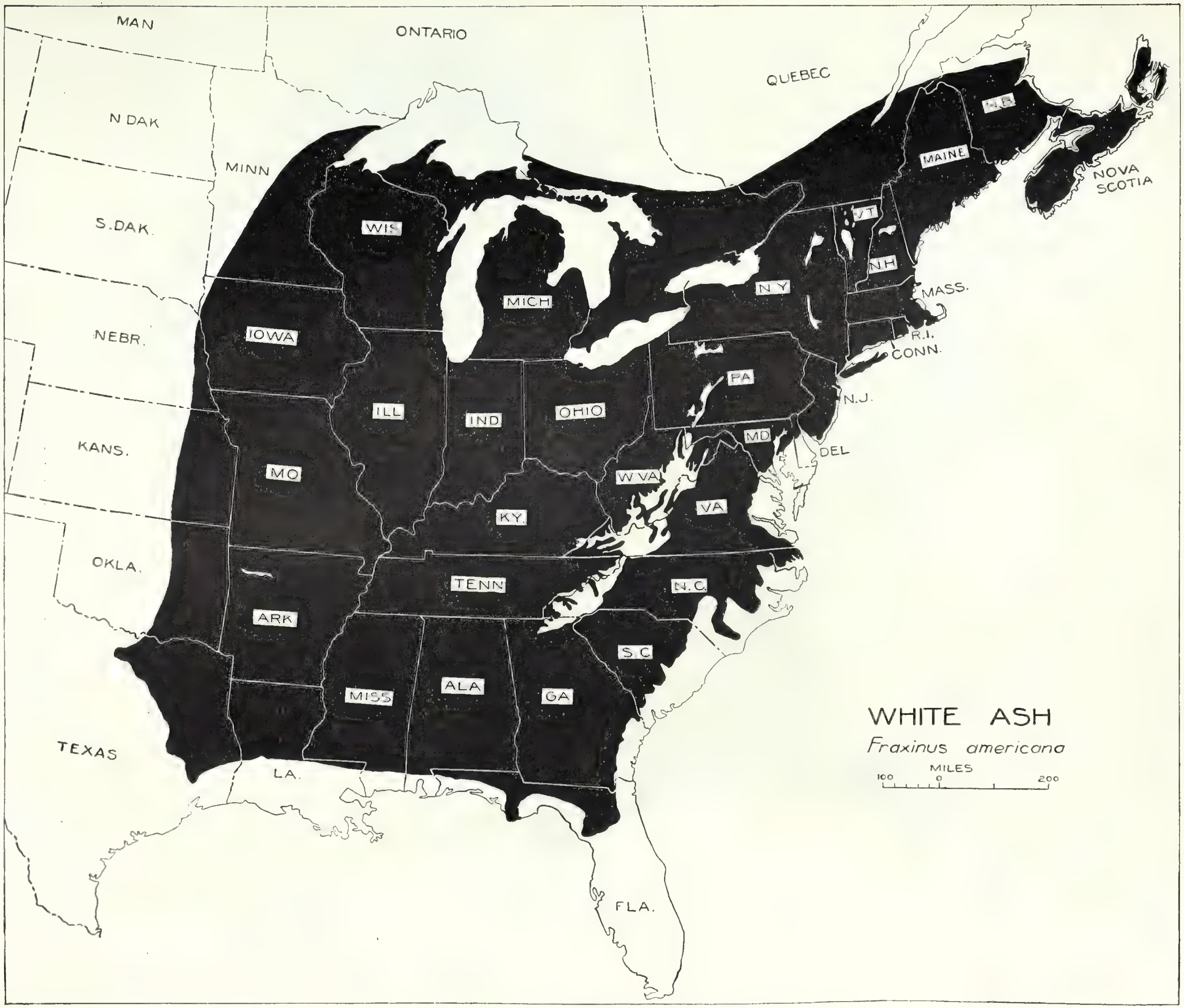
FRAXINUS QUADRANGULATA MICHAUX BLUE ASH



Map 164

FRAXINUS NIGRA MARSHALL

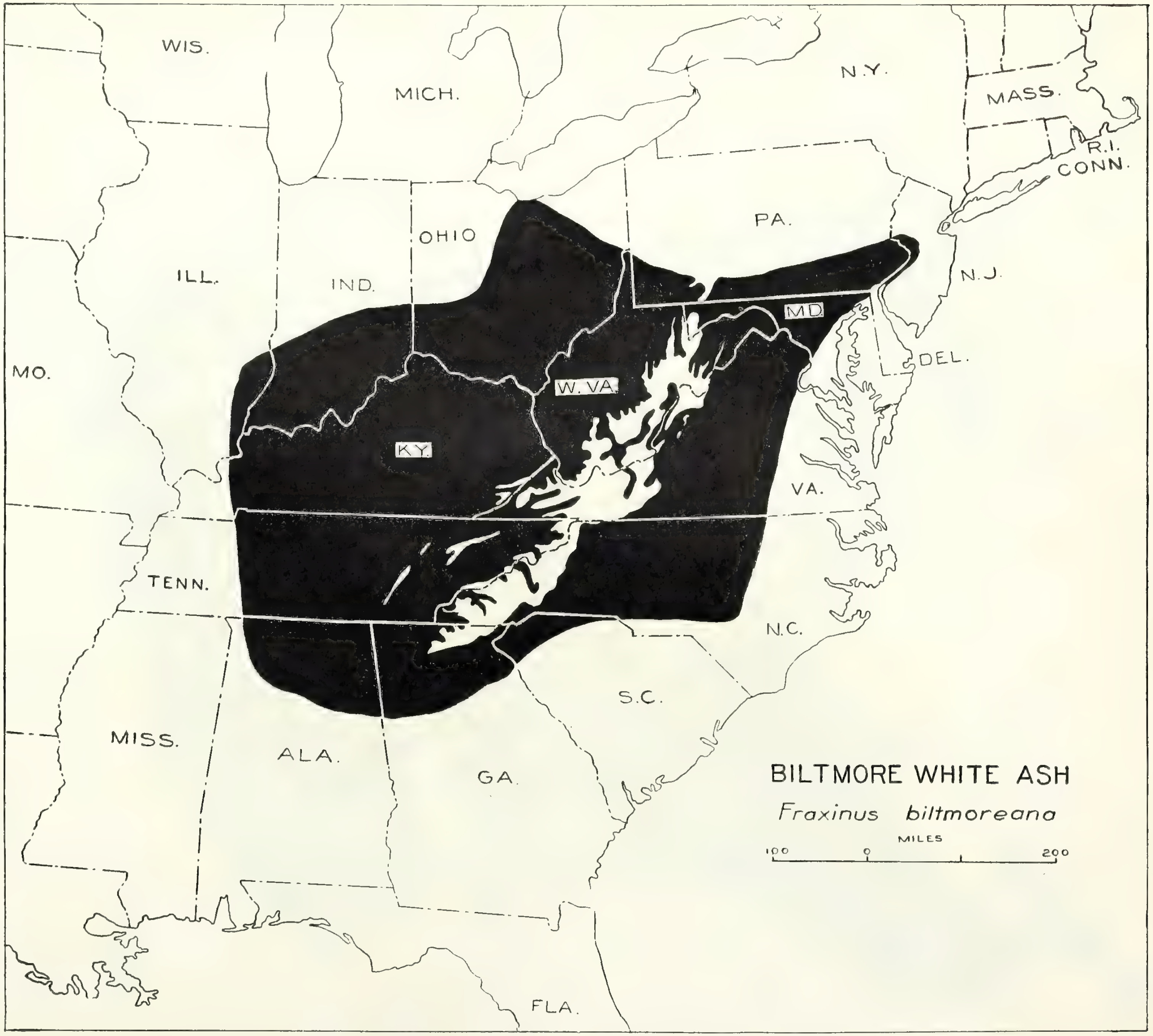
BLACK ASH



Map 165

FRAXINUS AMERICANA LINNAEUS

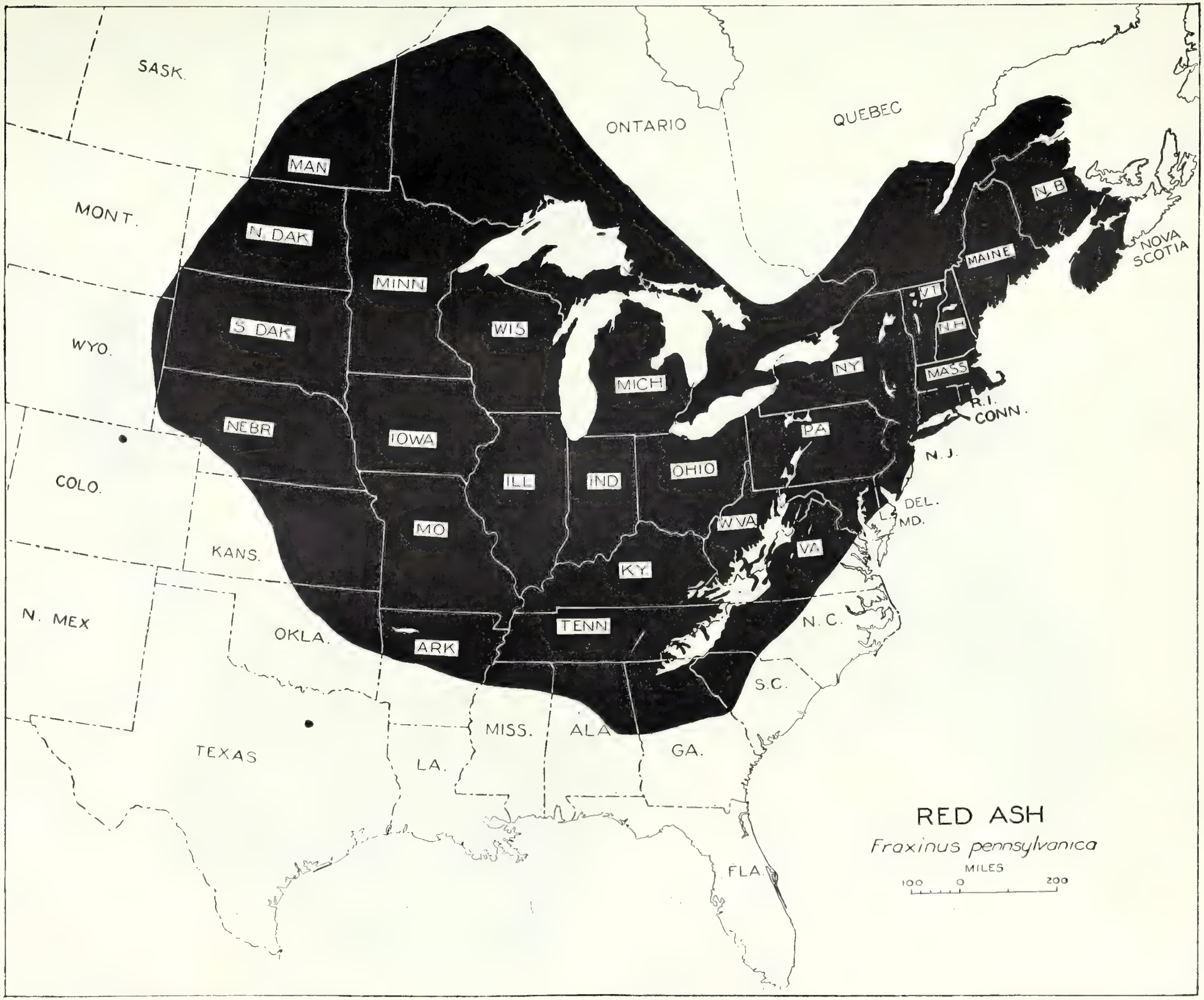
WHITE ASH



Map 166

FRAXINUS BILTMOREANA BEADLE

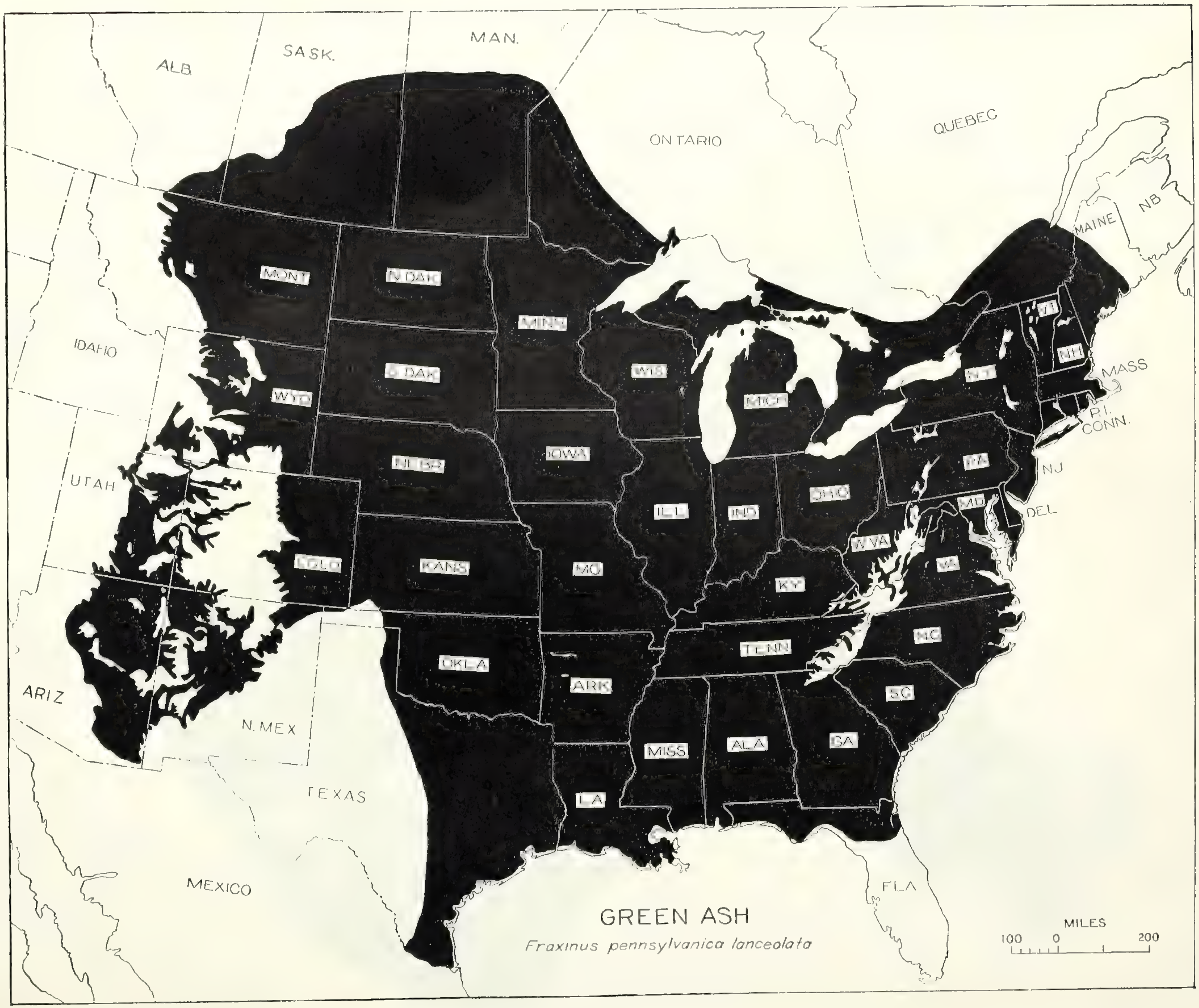
BILTMORE WHITE ASH



Map 167

FRAXINUS PENNSYLVANICA MARSHALL

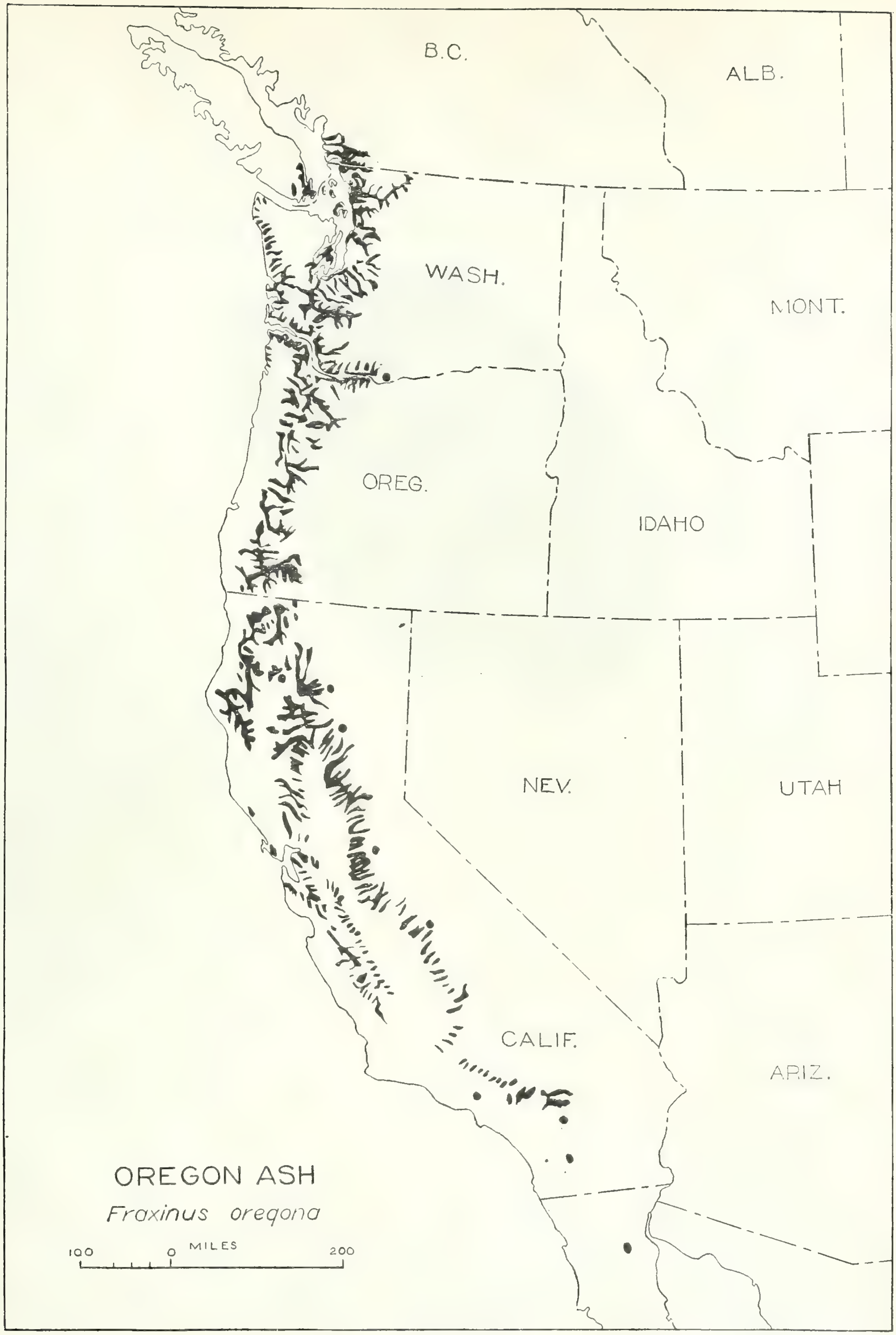
RED ASH



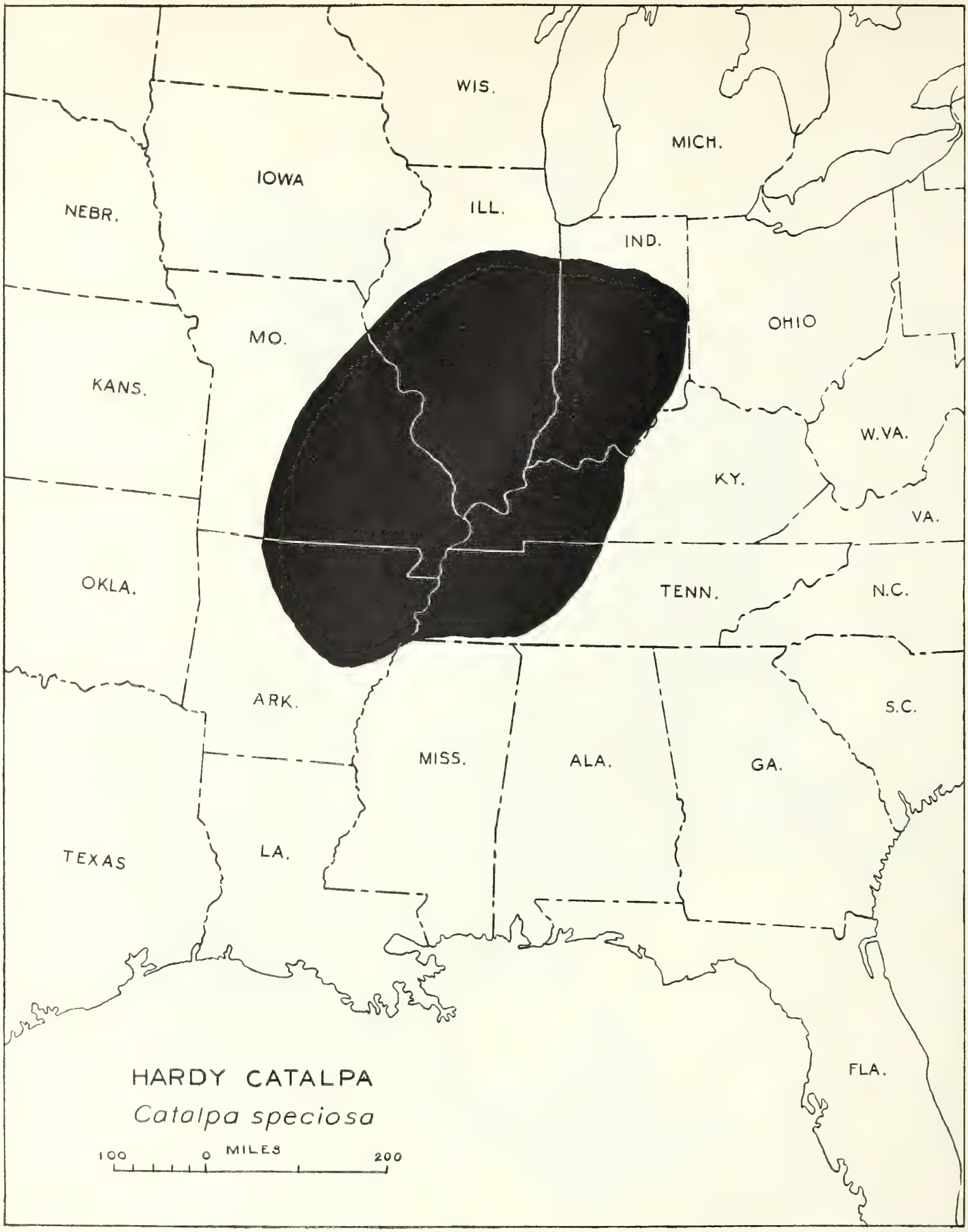
Map 168

FRAXINUS PENNSYLVANICA LANCEOLATA (BORKHAUSEN) SARGENT

GREEN ASH


B.C.
ALB.
WASH.
MONT.
OREG.
IDAHO
NEV.
UTAH
CALIF.
ARIZ.
OREGON ASH
Fraxinus oregona
100
0
MILES
200

Map 169



Map 170

CATALPA SPECIOSA WARDER HARDY CATALPA

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Pine, foxtail 10
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